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PROJECT MANAGEMENT IN SOUTH AFRICAN STARTUPS COMPANIES

By

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13th November 2020

DECLARATION

I **David Idowu Oyewole** hereby declare that this dissertation “Project management in South African startups companies” is my work conducted under the supervision of Prof. Jam–Harm Pretorius and co-supervision of Dr Dudley Jura submitted for the degree of Master of Philosophy at the University of Johannesburg, Johannesburg, South Africa. This research study represents my original work and has not been submitted before for any degree at any other university. All sources used are duly cited in the text and acknowledged by complete references.

Name: Mr David Idowu Oyewole

Signature.....



DEDICATION

This dissertation is dedicated to an all sufficient God, who has made it possible to accomplish this study, so grateful for your love, strength, and safety all through the period of my study. To my handsome and lovely wife, Oyewole Grace, you are my super hero, thank you for all your support, care and love you have shown to ensure completion of this dissertation.



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LIST OF ACRONYMS

SBA	Small Business Administration
GDP	Gross Domestic Product
GEM	Global Entrepreneur Monitor
SEDA	Small Enterprise Development Agency
SBD	Small Business Development
SMEs	Small and Medium Enterprises
SMMEs	Small, Micro and Medium Enterprises
TEA	Total Early-stage Entrepreneurial
PM	Project Management
PMI	Project Management Institute
SPSS	Statistical Package for Social Sciences
4IR	Fourth Industrial Revolution



ABSTRACT

ABSTRACT

The phenomenal rising of startups companies across the world in the recent times has contributed immensely to the global economic wellbeing in which South African nation is equally benefiting. As a result, South Africa has made tremendous progress and huge inroads in the number of startups established recently. For those that would succeed, application of project management principles and techniques have been affirmed to have capacity to galvanize high productivity, performance, efficiency and effectiveness. Hence, this study examined the existence, application, benefits, and challenges of project management in South African Startups companies.

The research approach employed for this study was quantitative method. As a result, the study adopted survey research type in this study. Sixty-three participants which include founders, co-founders, senior project managers, senior management team members and heads of operations of startups companies were sampled in the study. Four research questions were answered in the study. Data collection method was achieved through the use of one instrument which is a questionnaire consisting of five sections. Data collected were analyzed using frequency counts, percentages and cumulative percentage. The result showed that 95.2% of participants attested to the existence of project management and while 98% of the startups who are applying project management tools attest to the high level of the project management application in their companies. They affirmed to have used project management tools to execute several projects. The 85.7% of the startups agreed that the effect of the application of project management in timely execution of projects is evident and that its impact on startups companies is high.

Additionally, it has brought about job creation in South Africa and that project management application has indirectly contributed to the economic growth of South Africa and positioned their companies for global competitiveness. However, 76.2% of the startups companies agreed that, some clients cannot afford the cost of project management application to projects.

Based on the result of the study, it was concluded that existence of project management in South Africa is not in doubt, most startups attested to high level of project management application in their companies and many agreed to contributions of project management in timely execution of project, job creation and economic growth while challenges abound in the areas of cost which some clients could not afford. Hence, it was recommended that government support is required for

startups companies to increase the level of application of project management and need for continuous capacity-building of staff of startups companies on project management application tools.



CHAPTER ONE

1.0 Background to the study

The world continues experiencing exponential growth of startup companies in the last decade, which has resulted in the development and growth of the global economy while the importance of South Africa startups companies in managing projects to the market in South Africa.[1, 2] South Africa has witness a significant progress in the number of startups in the last ten years. There are several startups but only few have the potential of surviving and even succeeding into big companies. Although, it is not expected that all startups would survive and prosper in the long term.[3] The statistical analysis conducted by Assad reported that a statistics conducted on the success of startups showed that out of ten startups only one succeeded. [4] According [5] mentioned that in the United States of America Small Business Administration (SBA), 24% of all new start-up busines fail within two years and 63% fail within six years. [5] The failure rate of countries like United kingdom, Netherland, Japan, Taiwan and Hong Kong falls within the same range of USA. [5, 6]

The causes of startups companies' failure range from several factors such as management, planning, time, cost, scope, finance etc. The application of sound project management principles and techniques can be applied and used to minimize the failure rate of startup companies and thus increase their success rate. The application of project management has been applied in different areas, fields, sectors and industries which have resulting in higher productivity and improved organization success.[7] This tends to show that its usage may be a promising tool that may galvanize productivity for startups companies.

Startup companies can be defined as emerging small businesses that have potential for growth with a creative innovation of products, services or processes, usually start by individuals, entrepreneurs or shareholders.[8, 9] The startup are usually young, new companies evolving or already established small business. In the South Africa context according to national small business act, 1996 state that small business organization “is any entity whether or not incorporated or registered under any law, which consist mainly of persons carrying on small business concerns in any economic, or which has been established for the purpose of promoting the interest of or representing small business concerns, and includes any federation consisting wholly or partly of 5

such association, and also any branch of such organization;”. Startups are characterized as a small business.

Startups are generally known as agents for economic growth. [10] The rate at which South African startups are emerging nowadays requires conducting research to determine project management application, benefits and challenges in its overall performance. The South African startups have made great impact in different areas, most especially Information Technology (IT), Agriculture and Financial Technology, manufacturing, services and several other areas, where innovative technology applications are being driven. Project management is believed to be rapidly changing many organizations which results in better performance, which makes it necessary to explore the application of project management. [11]

Innovation plays a major role in the success of startup companies because it contributes greatly to the startup success. Predominately, the surviving startup companies are the innovative ones which created a unique product, service or process that is not yet being offered or from an existing product or services or added a value to an existing ideas or business. [12] The impact of startup companies cannot be underestimated in the global economy due to the creation of innovative ideas, product and services. This has contributed greatly to the creation of job opportunities, increase in Gross Domestic Product (GDP), poverty reduction and economic development. Recent studies shows that new firms or startups companies contribute three millions jobs to American economy every year and indirectly contribute to American employment growth.[9] Turner et al, reported that according to the European Competitiveness Report that small to medium enterprises contributes for 99.8% of all companies in European Union, while generating 56% to GDP and increasing private sector workers employment to 70%. [13] The contribution of small to medium enterprises to countries economy and GDP has been witnessed in most countries that have a policy and support programme for startups and entrepreneurship.

The startup companies come into existence through different phases from performing several tasks which result to set of activities and later refer to project. The existence of any organizations depends on the success and execution of the projects. Projects can be defined as ‘a temporary undertaken to create a unique products or services’ this shows that startups companies execute several projects.[14] The project management is being applied in several industries, sectors and organizations.

The Project Management Institute defines project management ‘as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirement’. [15] Nowadays, successful projects involve good project management principles through the effective and efficient applications of knowledge, skills, methodology, process and technique of project management. Project management is gradually becoming a global tool using in achieving organization goals and objectives, there is greater need to investigate the project management in South African startups companies considering the benefits, impact and challenges.[15]

1.2 Startup Companies in South Africa

The startup companies in South Africa have experienced a great increase in the last ten years, although, still very low compare to developed countries. The entrepreneur activity found its existence in small, medium and micro enterprises. Herrington and Kew report continuous low level of entrepreneur activity in relative to other countries participated in Global Entrepreneurship Monitor (GEM).[16] Most startups companies start as a small business, while later grow to a big company with time. The contributing factors include the South Africa government programmes, policies and supports. The creation of the ministry of Small Business Development in 2014 from Department of Trade and Industry was to promote and develop small business in South Africa. [17] The Small Enterprise Development agency is one of the agencies of the Department of Small Business Development (SBD) charged to implement government’s small business strategies, programmes and policies. Especially the programme and support from SBD through Small Enterprise Development Agency (SEDA) has contribute to the development of small businesses in South Africa. [17]

The promotion of small businesses and entrepreneur activities remains an important priority and strategies by South African government in the creation of jobs. It is believed that small business is principal creator of new jobs, empowerment, innovation, combating poverty and unemployment. According to SEDA “it is widely recognized that Small and Medium Enterprises (SMEs) can serve as crucial engines of economic development and job creation”. [18] Small business can be seen as a means to become medium or big business in South Africa context.

Furthermore, the research conducted by SEDA shows that SMEs contribution to the South Africa economy is of high significance, SMEs accounting to almost 91 percent for all formal business entities in South Africa.[17] The estimation of 51-57 percent contribution to national Gross

Domestic Product, providing approximate 60 percent of employment. The analysis of available evidence has shown that SMEs could make an even higher contribution to the employment in the country comparing to contribution of SMEs in middle income countries where it contribute over 65 percent of total employment in some of these countries. [18]

One of the ways South African government continues to support SEDA is through creation of the incubation centers to promote creation of more entrepreneurs and job opportunities.[19] [18] Incubation plays a vital role to support the early phase of startups companies and contribute to survival and growth of startups and small business through common use of resources at the incubation centers.[20] The incubations contributes to the success and performance of startups companies at the early stage of their life. The SEDA increase the creations of numbers of incubations centers from 55 to 57 in year 2016 with the creations of new 497 SMMEs. [18]

Incubations still remain at infancy stage in most African countries compare to the developed countries. The concept of incubation has been widely adopted in many African countries and the prevalence of incubators for start-up and early stage businesses is relatively low in Africa, although the idea of propelling organizations for businesses is new and still evolving. Several successful incubated businesses exist, however, the outcome results are encouraging for the whole concept of incubation. [21]

Incubation is important to entrepreneurs through provision of resources and tools to grow their businesses. [21] Although the prevalence of incubators for startups is relative low in Africa. Figure 1.1 show the monitoring survey by Omidar Network that most afro-entrepreneurs believe the insufficient of incubators exist to support the establishment of new firms in their respective countries: 92% of those in Ghana; 90% in South Africa; 87% in Tanzania; 78% in Nigeria; 77% in Ethiopia; and 76% in Kenya are the Respondents who agree that: ‘There are sufficient numbers of incubators to support the launch of new firms’. [21]

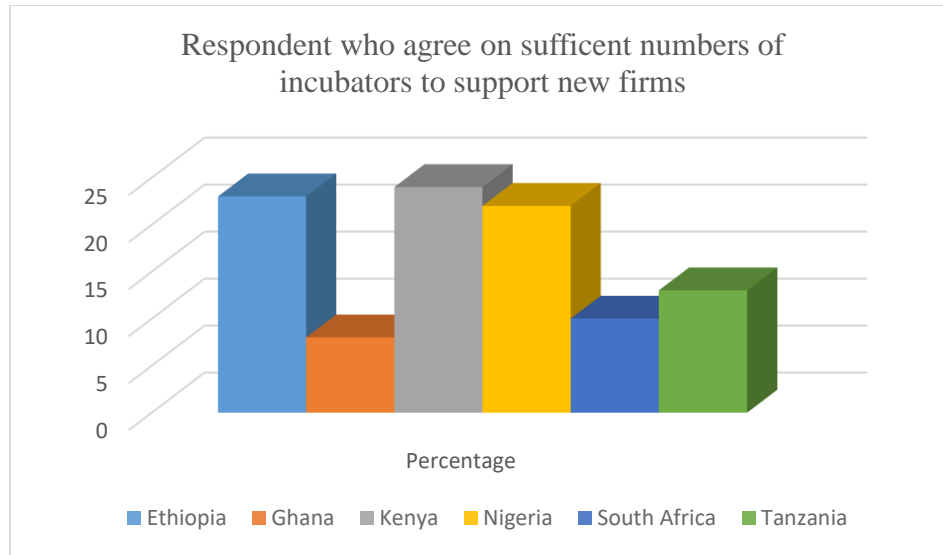


Figure 1:1 Showing a diagrammatic representation of Incubation in its Infancy, Source [21].

The entrepreneurs play an important role in startup companies and contribute to the existence of startup companies. The global entrepreneur monitor (GEM) for the 2016 survey report on the entrepreneurship activities tracking and monitoring of global economies among 65 countries of the world including South Africa.[16] Herrington and Kew reported that South Africa economy growth is at the modest in 2015 GEM report. One of the classifications of entrepreneurs by GEM is the entrepreneurs in relative to organizational development. The social, cultural, political and economic context is express through National Framework Conditions, taking into account society advancement through three phases of economic development (factor-driven, efficiency driven and innovation-drive), South Africa falls among countries that entrepreneurship activities was efficiency driven. Although, in the recent survey carried by out GEM survey cover 69.2% of the world's population and 84.9% of the world's GDP, showing each countries phase of economic development.[16] [22]

Table 1:1 GEM economies by geographic region and economic development level, 2016

	Factor Driven	Efficiency Driven	Innovation Driven
Africa	Burkina Faso, Cameroon & Senegal	Egypt, Morocco & South Africa.	
Asia & Oceania	India, Iran & Kazakhstan	China, Georgia, Indonesia, Jordan, Lebanon, Malaysia, Saudi Arabia, Thailand & Turkey.	Australia, Hong Kong, Israel, Qatar, Republic of South Korea, Taiwan & United Arab Emirates.
Latin America & Caribbean		Argentina, Belize, Brazil, Chile, Colombia, Ecuador, El Salvador, Guatemala, Jamaica, Mexico, Panama, Peru & Uruguay.	Puerto Rico.
Europe	Russian Federation	Bulgaria, Croatia, Hungary, Latvia, Macedonia, Poland & Slovakia.	Austria, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Slovenia, Spain, Sweden, Switzerland & United Kingdom.
North America			United States & Canada.

The South Africa Total Early-stage Entrepreneurial (TEA) in GEM economies in 2015, by phase of economic development is regaining some ground back from 7.2% to 9%, although low level of all phase of early stage entrepreneur still exist.[16] Notwithstanding, the contribution of entrepreneurs activities startups do fail and many factors still cause the failure such as management skills, resources, capital, experience, market and several others.

1.3 Aim of Study

The continuous emergence of startups companies in South Africa contributes greatly to the economy, the surge of the startups is being witnessed but not all the startups that are successful and are able to succeed in their first five years. However, there seems to be dearth or no empirical research on the startups companies in South Africa particularly in the context of project management application in South African startups companies. Hence, the research gap has been identified as the motivating factor for conducting this study to investigate project management (PM) application in the South African startups companies.

1.4 Significance of Study

The findings of this study will in no doubt contribute immensely to South African startups companies in the context of project management application as follows:

- The outcome of this research will serve as a veritable to understand the benefits of project management application to startups companies in South Africa.
- It will equally serve as a guide in understanding the challenges being confronted by startups companies in South Africa in the area of project management and best ways of tackling it as provided by the outcomes of this study.
- Furthermore, this study will reveal the important key performance indicator necessary for the development of South African startups in the context of the application of project management.
- The findings will be of immense benefits to several stakeholders that include government officials, policy makers, businessmen, researchers.
- It will also serve as a reference for other researchers who may want to conduct the same or similar study. In essence, it will contribute to the body of knowledge on South African startups companies in the context of project management.

1.5 Problem Statement

Building businesses or organizations from the scratch remains herculean task. Many who had privilege of nurturing startups to flourishing organizations may attest to this that such organizations had weathered the storm in the past. Despite these challenges, there are several successful startups companies in the world today which began from low estate but eventually grew to overcome the

odds and become not only successful but expanded across the nations of the world. Few examples of these include: Facebook, amazon, skype and lots of others. In South Africa in particular, space X was started and nurtured as a startup company with the vision of transforming it to global corporation, today it is listed among the leaders in Information Technology reckoning with in the world.

Meanwhile, several factors had been attributed to the failure rate of startup companies such as poor management, lack of planning, cost and scope. The startups companies in South Africa too are not immune from the myriad of problems militating against its development and survival. However, the application of project management principles and techniques has been applied and used to minimize the failure rate of startup companies and thus increase its success rate in other climes. The outstanding evidence of application of project management in different areas, fields, sectors and industries which had resulted in higher productivity and improved success abound in several organizations.

The application of project management in several organizations which had started as startups and still growing, which had benefited from the application of project management in South African startups companies need to be studied so as to understand the application of project management in South African startups companies. It is against this background that the present study sought to fill this gap by investigating the existence, application, benefits, and challenges of project management in South African Startups companies.

1.6 Research Questions

The research questions that will guide the study are:

- Does project management practice exist in South African startups companies?
- What is the level of project management application in South African startups companies?
- Does project management application contribute to the success of South African startups companies?
- What are the challenges of project management application in South African startups companies?

1.7 Research Objectives

The main research objective was to examine the project management application in the South African startups companies. This study specifically seeks:

- To establish if project management practice exists in South African startups companies.
- To examine the level of project management application in South African startups companies.
- To verify the contributions of project management application in South African startups companies.
- To identify the challenges and proffer solution to the project management application in South African startups companies.

1.8 Research Outline

The first chapter introduce the existence of startups companies in South Africa and explore the problem statement of the research the application of project management in South Africa startups companies. The background to the study sets the tone and systematically details why project management in the context of existence, application, benefits, and challenges in South African Startups companies is worth investigating.

Chapter two discusses the literature review based on the variables of the study. It reviews the literature on project, project management, small business, success and failure of startups companies and in relation to project management.

The chapter three elaborate on the methodology used in conducting this study; the research design, method of data collection, the population of study, the selection of participating startups companies, analysis and interpretation method. It further tests the method on validity and reliability, data collection procedures, analysis and ethical considerations.

The fourth chapter deals with the application methodology used in data analysis and result presentation in line with the research questions. The quantitative data collected through questionnaires were analyzed under key variables of the study using the Statistical Package for Social Science (SPSS).

The chapter five highlights the findings, recommendations, conclusion and suggestion for further research. It shows the existence of project management in South African startups companies.

1.9 Chapter Summary

This chapter was an introductory overview of the study which comprises background to the study, significance of the study, aim of study, problem statement, research questions and research objectives of the study. It introduces the existence of startups companies in South Africa and explore the problem statement of the research the application of project management in South Africa startups companies. The background to the study sets the tone and systematically details why project management in the context of existence, application, benefits, and challenges in South African Startups companies is worth investigating. The aim of study which is why the study is worthwhile is equally examined. One main objective and four specific objectives which metamorphosized into four research questions were raised which allowed the researcher to arrive at achieving the objectives of the study. The subsequent chapter two discusses the literature review based on the variables of the study.



CHAPTER TWO

2.0 Literature Review

2.1 Introduction

The project management use and its applications continue to increase in our community, society organizations and even in our daily activities. [11, 23] The trend which most organizations and companies are accepting project management is increasing every day. What organizations projects found difficult to accomplish in a normal traditional way were able to achieve easily, cost effective, effectively and efficiently with project management. Project management application has gained global acceptance for its ability to getting things done in a better way and increase the performance, efficiency and profitability of many organizations. [14, 15, 24-26]

The acceptability of PM profession may be a pointer to its useful application in several organizations. “PM is the application of knowledge, processes, skills, tools and techniques can have a significant impact on projects success”. [27] Although several literature report that project management is an applied discipline and decision making tool, they are right but is more than applied discipline. [28, 29] The large organization has taken up project management as way of working not just only as a tool and methodology. [23, 24] The contribution of project management application in many organizations has resulted indirectly to country economic growth, jobs creations, global competitiveness, while increasing organizations values, effectiveness, efficiency, profitability etc. [30]

Many organizations continues to makes use of project management in order to achieve organizational objectives within limited period and resources without compromising organization deliverables. [23] Why will startups companies not adopt project management application to increase their success rate if available evidence seems to be adding values to the organizational productivity? In essence, exploring project management application may be necessary for startups companies in South Africa to increase its profitability. However, the research on project management application in startups companies in South Africa seems nonexistent or scanty. Meanwhile, critical review of literature on projects and project management from different fields, areas and organizations where it has been applied, has shown that PM application to startups companies may be a veritable tool to increase organizational efficiency and effectiveness.

2.2 Project and Project Management

Project and project management are interlinked to each other. However, there is distinct meaning of each term. It is better to expatiate the definitions of each terms. The use of project in organizations and companies has steadily increased since many decades ago.[31] And also several organizations continue to apply projects in their business operations.[32] There is an indication that project success continue to increase while substantial number of organizations still do not meet up with the expectations of the project management.[33, 34] Project management is one of the contributing factors to increase project success which has been affirmed by different researchers. The project management application has been associated with a unique complex problems which can be refer to as project, while project management success is associated with project outcome.[33] One of the major goals of projects and project management is to add value to the organizations.[35] More insights on what project and project management entail are explored particularly its applications, benefits and challenges in startups companies.

2.2.1 Project

Project can be carried out in almost every sphere of human endeavour which varies from small and simple to complex projects. It comes in all types and sizes, from building a house to installing some fittings, planning a vacation, launching orbit space station and even construction of multibillion structures. [7, 36] Several definitions of project were found in literature and books, each one with its own characteristics but mostly have the same term and meaning. The generally referred one is from Project Management Institute (PMI). PMI defines project as “A temporary endeavour undertaken to create a unique product, service or result”, Project are the means of achieving organizational objectives.[27] A project is a temporary type of endeavour required to deliver a predefined products or result at a predefined moment with predefined resources.[37] A project has to be monitored and controlled using appropriate project controls systems.[38] Lientz and Rea added to its definition by conceptualizing project as the allocation of resources directed toward a specific objective following a planned, organized approach.[39]

Further, It is a set of activities or task set out to accomplish specific result having the beginning and an end, and characterized with the following attributes, time, scope, results, cost, objective, quality, customer’s satisfaction, temporary, risk, independent task and activities, performance, resources, planning, scheduling, stakeholders, and unique with a degree of uncertainty. [14, 15,

33, 36, 37, 39, 40] This bring about project component which includes objectives, strategies, plan, resources, skills, tools and methods. The figure below shows the connection of each component with three dimensions of a project.

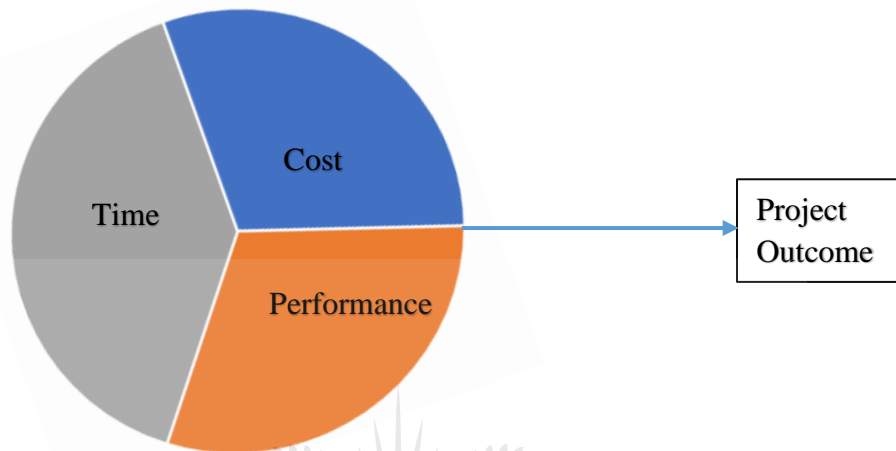


Figure 2:1 The three dimensional of a project (Source W. Fox & G Van der Walt, 2008)

The project provide a means through which we introduce a change in every organizations, companies and even startups, although it is usually has a set of activities with its own uniqueness to achieve set of objectives. Normally project creates products, services, improvements and results to the company or organizations. [15] The small businesses and startups found its existence from projects through the executions of projects in their daily activities. Purpose of projects is to get things done while startups companies reach their goals through projects since it's a means to get things done. [41] It can be refers to the heart of companies.

Many extant literatures explained what project is without incorporating it into startups companies on how it exists and works. According to Turner et al, projects in Small and Medium Enterprises account for almost one fifth of the western world's economy, although startups fall within SMEs there is need to specify the contribution of projects in startups to the economy. [13, 42]

2.2.2 Project Management

The evolvement of project management over the past decade has enable the researchers to continue researching on different aspects of project management, its applications, uses, practice and other areas. Although several researchers and scholars have elaborated and defined what project management means. Defining project management remains a herculean task. The PMI defines

“project management” as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements” while PRINCE2 defines project management as the planning, delegating, monitoring and controlling of all aspects of the project, and the motivation of those involved, to achieve the project objectives within the expected performance targets for time, cost, quality, scope, benefits and risks”. [11, 15, 37] The definition by both PMI and PRINCE2 explained what project management is but the latter one put into consideration peoples factor.

Furthermore, According to Kerzener, project management utilizes the systems approach to management through assigning of personnel to a certain projects. [11] The approach categorized project management into five process groups or project life circle which consist of Initiating, planning, executing, monitoring and controlling, and closing. [11, 14, 15] The successful project management involves those processes and this can equally contribute to success of startups companies. Although, project management outcome is through the utilization of three project objectives, this sometimes connotes overview of project management in relations to satisfying customer’s needs. The figure below shows the consideration of cost, time and performance (scope, budget, quality etc.) directed towards project objective and goal which is often referred to as overview of project management. It is noteworthy to state that projects’ objectives are critical to project success. The primary objectives of project management are shown in figure below:



Figure 2:2 Overview of project management. Source [11]

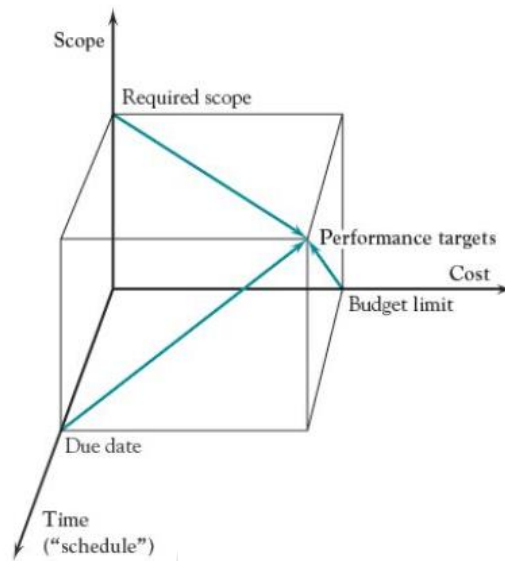


Figure 2:1 Project targets- performance, cost and time. Source [14]

Project management is a means through which projects are managed and change is achieved in many organizations. Through the application of theories, tools, methodology and skills of project management several organizations has witness change (which includes increase in profitability, value, competitiveness, performance, growth etc.) in their organizations, companies, and even in the society. [14] The primary aim of project management has a discipline is to facilitate the successful completion of projects.

The general acceptance of project management is due to continuous impact and contributions it has in its application and uses. The application is varied from small to large companies, manufacturing, construction, information technology, public sector, private organizations, non-governmental organizations and all facets of discipline and life. However, it should be noted that the degree of its application and uses differ from organizations to organizations. According to Spalek in a study on global companies in determining if investment really payoff in project management, showed that it does pay off but is important for companies to increase the know-how on project management. The study was only on most large and global companies without considering small and medium industries which contribute higher percentage of GDP to countries economy.[43] This has also lent credence to the need for this study to see how project management application can benefit startup companies in South Africa.

2.3 Startups

2.3.1 Introduction to the Startups

In South Africa, there seems to be several individuals who have capacity to go into business and who may take the opportunity of starting on their own. This has shown the need to be properly groomed in proper management to ensure that small business survives and grows. Startups companies find its existence form small business. The research study on startup companies cannot be complete without uncovering its root is small businesses.

2.3.2 Small Business

The small business does not have a consensus definition that is generally acceptable and agreed upon principally because of huge diversity of business. Every individual, organization, institutions and country define small business as it applies to their criteria in consideration, although the definition differs from country to country using different criteria. According to Bureau for economic research report 2016 reveal that the Small, Medium and Micro Enterprises (SMMEs) can also be referred to as small business. [17]

The South Africa SMMEs is also regarded as small business. It is referred to as the drivers of economic growth, job creations, innovation and poverty eradication. The South Africa government acknowledges the importance of the section of business activity, to the extent of creating a department to solely manage it. The Department of Small Business was created in year 2014 solely to promote and develop small business. The small business significantly contributes to the GDP and highest contributors to job creation. Although, South Africa continues to battle with the problem of high unemployment, the present rate of unemployment is 27.2 percent in second quarter of 2018 (Statistics South Africa). This necessitated why the government established policies and programmes to support and create enabling environment for small businesses. One of the strongest forces in achieving success in small business is the unflinching spirit of entrepreneurs, the one who brings new firms into existence. Entrepreneurs are creative, innovative, and talented and determined individuals who provide leadership for small business. [44]

According to Department of Small Business, the definition of SMMEs is very broad, it includes formally registered, informal and non- VAT registered organizations. Small business varies from medium-sized enterprises to informal micro-enterprises. [17] . In the year 2007, Department of

Trade and Industry approximate that 2.26million SMMEs in South Africa in which 75% or more operated in the informal sector. Which usually exist in forms of backyard business, street trading and home based business. [17]

In South Africa context small businesses is attribute to a firm with a less than or equal to 50 employees while in United Kingdom 0 to 250 employee is still refers to as small business, according to Small Business Administration (SDB) 0–500 employee is referred to as small business in America. [17] The size of employee small businesses differs from country to country. The SDB ascribes that to small businesses on a company's annual net receipt or number of employments. The whole world has realized the contributions the small businesses are making in helping creating healthy economy and solving unemployment problems.

Meanwhile, Booyens has described the South African SMMEs economy as informal active economy and large survivalist sector, while emphasizing that there is a difference between dynamic SMMEs and Survivalist SMMEs which require separate policies and intervention.[45] The National Small Business Act 102 of 1996 policies focuses on the eradication of poverty, job creations and economic growth which indirectly for developmental scope without given more consideration to policy to support innovative SMMEs. [45]

Although, with the support from government the policies and programmes initiated has not been able to curb the increase of unemployment in the country. According to Andre Ligthelm, Chimucheka and Mandipaka, the failure rate of small and medium business in South Africa is estimated to between 70-80% while Chimucheka and Mandipaka attributes the failure to challenges facing small businesses and lack of support from stakeholders. [46] GEM report that most small businesses are struggling to survive in their first year of operations in South Africa and also entrepreneur's level is among the lowest compares to other countries in the world but early stage entrepreneurs are considerably more innovative than their African counterparts. [22] Although the policies seem not working to impact small business as expected but with the commitment and seriousness from government the failure rate of small business can be reduced, and also the introduction of project management principles into small businesses may be a veritable tool to enhance its success.

South Africa continues to have low levels of entrepreneurial activity in respect to other countries participating in GEM. The TEA increases from 7% to 9.2%. The rate of establishing new business

is still significantly lower than average. It ranked 53rd out of 60 economies participated in 2014.[22]

According to Stoke and Wilson categorized the small business definition into quantitative and non-quantitative definition based on the Bolton report 1971, the quantitative parameters include numbers of headcount, turnover, and balance sheet value while non-quantitative definition is characterized with its independency, owners management and small share of the market in the economic term. [47] [48]

The United Kingdom government used the Bolton report in the definition of Small business as “an independent business, managed by its owner or part-owners and having a small market share”. [48] The European Commission mostly use quantitative attributes in defining a small business, employment size, turnover per annum and size of the capital employed by grouping small business into three types micro, small and medium enterprises. [48, 49]



Table 2:1 Private sector business in the UK by number of employees

Private Sector Business in the UK by number of Employees, 2017						
	Businesses (1000s)	Employment (1000s)	Turnover (€Billions)	Businesses (%)	Employment (%)	Turnover (%)
No employees	4328	4697	272	76%	18%	7%
SMEs (0-250 employees of which:	5687	16147	1905	99.9%	60%	51%
Micro (0-9 E)	5445	8790	824	96%	33%	22%
Small (10-49 E)	208	4059	540	4%	15%	14%
Medium (50-249 E)	34	3297	541	1%	12%	14%
Large (250+ E)	7	10576	1834	0%	40%	49%
Total, All Businesses	5695	26723	3739	100%	100%	100%
Source: BIS, Business Population Estimates						
Notes: Data relate to the start of 2016, Numbers rounded to the nearest 1000, E denote Employees						

The Government of the UK through Department for Business, Innovation & Skills (BIS) uses the European Commission's definition of SME, which "defines it as an entity engaged in economic activity that: employs fewer than 250 people; and has annual turnover less than or equal to 50 million euros (£39 million); or has a balance sheet total of less than or equal to 43 million euros (£33 million)". [49]

In the year 2012, there are 4.8millions, 2014 there are 5.2millions SMEs which was above 99% of all business with an increment in year 2016 to 5.4millions, and in the year 2017 5.7millions. They are mostly privates but also includes voluntary, community and social enterprises (VCSE). Micro Business are business with employee 0-9, with over 5millions micro business and accounting for 96% of all business in the UK. Most of the business in UK employ less 10 employee which account for 33% of employment and 19% of turnover. [49] the table below show the business statistic of UK.

Table 2:2 Private Sector business in the United Kingdom. Source: [49]

Private Sector Businesses in UK				
Years	Number of Businesses	Change on Year(000s)	Change on Year	% That are employers
2000	3467	-	-	32%
2001	3502	35	1%	33%
2002	3573	71	2%	33%
2003	3679	106	3%	32%
2004	3925	247	7%	30%
2005	3927	1	0%	30%
2006	4125	199	5%	29%
2007	4272	146	4%	29%
2008	4284	12	0%	29%
2009	4375	92	2%	28%
2010	4483	108	2%	27%
2011	4589	106	2%	26%
2012	4818	229	5%	25%
2013	4914	97	2%	24%
2014	5247	333	7%	24%
2015	5401	154	3%	24%
2016	5498	97	2%	24%
2017	5695	197	4%	24%
Source: BIS, Business Population Estimates				
Notes: Data relates to the start of the year				

The UK government continue to meet their target on small and medium enterprises programme due to the continuous and persistent support, policy and programme. Although small business establishment continue to grow notwithstanding some still cease to be. The rate at which they cease to exist varies from years to years in UK averagely between 10-12%. The year 2016 has highest creation of small business with 31,000 more than the previous years. [49]

In the United States of America, Small Business Administration (SBA) is the permanent government agency with sole responsibilities on financial, regulation and policy of small business. According to SBA 99% of entire US employer firm are small business and contribute approximately half employment to private sector. It has approximately 28million businesses in which 99% falls under small business. This shows the contribution small business contribute to US economy. [50]

2.4 Startups Companies in South Africa

According to National Small Business Act 29 of 2004 state that small business “means a separate and distinct business entity, together with its branches or subsidiaries, if any, including co-operative enterprises managed by one owner or more predominantly carried on in any sector or subsector of the economy”. It can be classified as a micro-, a very small, a small or a medium enterprise. The South African government define small business by size, age of the establishment, financial turnover. [51] The startups falls under small business which usually employs between 1 to 50 employees and has a turnover of between R0.2 million and R32 million, see the table below.

Table 2:3 Classification Criteria of a Small to Medium Enterprise. Adapted from [51]

Classification	Turnover Range	Number of Full-Time Employees
Micro	R 0.2 to R 1 million	5
Very Small	R 1 to R 6 million	10
Small	R 6 to R 32 million	50
Medium	R 7 to R 64 million	100 to 200

The South African startups seem to be innovative and technology- driven. The South African startups’ numbers are increasing every day and increasing into small medium enterprises. Turner and Lewdith opine that the project management is the catalyst for SMEs which is equally applicable to startups too.[13] Despite this fundamental importance of project management

application to startups companies, most startups seem unaware of the importance of the project management application. Tuner et al position on the application of PM to small and medium enterprises, startups companies inclusive is highly instructive. The application of PM may serve better to catalyze the growth and survival of startups companies than traditional means and methods of achieving such organizational objectives. Given the above background, hence this study sought to examine project management application, its contributions and challenges in South African Startups companies.

2.5 Summary

This chapter two dealt with literature review of the study under the following subheadings: project and project management, project, project management, introduction to the startups, small business and startups companies in South Africa. Summarily, it entails reviewing various issues that had direct bearing with the present study which serve as a basis for comparison of the present study. This involves conceptualizing the definition of project, project management, small business and startups. This chapter too examines the existence, application and impact of project management within South Africa startups companies. While also reviewing previous articles on what contributes to the success rate of startups companies and their failure. It has shown project management to have gained global acceptance for its ability to get things done in better ways and increase the performance, efficiency and profitability of many organizations. It was also established as well that what was traditionally difficult to achieve was able to be achieved easily, effectively and efficiently with project management application.

CHAPTER THREE

3.0 Research Methodology

3.1 Introduction

This chapter discusses the method adopted for this study. This includes the research design, target population, sampling techniques and sample, instrumentation, data collection procedure and method of data analysis.

3.2 Research Design

The study adopts the descriptive survey design. This is because there is no manipulation of any variables since the information is already there, before and after the research.

3.3 Population of the Study

The target population of this study includes founders, co-founders, senior project managers, senior management team members and heads of operations of startups companies who were purposely selected to elicit information on startups companies in South Africa.

3.4 Sample and Sampling Techniques

The startups companies were purposefully selected without any bias or special consideration for any group. The sum of one hundred and twenty-five questionnaires were sent out to the study participants who include owners, founders, co-founders, senior project managers, senior management team and heads of operation of startups companies in South Africa. Sixty-three (50.4%) participants of the one hundred and twenty-five participants which include founders, do-founders, senior project managers, senior management team members and heads of operations of startups companies sampled returned the questionnaires. Those purposefully selected are not known to the researcher except that they possess attributes that can elicit needed or necessary information for this study.

3.5 Research Instrument

For this study, an instrument was developed. The instrument was divided into five sections comprising demographic data, existence of project management, and level of project management application, contribution of project management and challenges of project management application in South Africa startups companies.

3.6 Validity of the Instrument

The validity of the instrument was carried out via the face and content validity methods. The sample of the draft questionnaire was submitted to the supervisor and experts with bias in test and measurement. Therefore, the contributions and corrections of these experts were incorporated into the final draft of the questionnaire administered.

3.7 Reliability of Instrument

Reliability is the accuracy or precision of a measuring instrument. For this study, the instruments were subjected to Cronbach alpha reliability analysis formula to establish the reliability coefficient of the instruments. This method helped to establish the extent to which the instrument is reliable using a few of the population under study.

3.8 Data Collection Procedure

The research instrument was administered by the researcher to the participants through emailing, mailing (courier), faxing and personal administering of questionnaires to the startups companies. The collection of data lasted for six weeks as the researchers encountered hitches in getting across to the participants who are founders, co-founder, senior manager, senior project managers and heads of operations of startups companies and getting feedback.

3.9 Method of Data Analysis

This study uses a questionnaire to collect data on different variables/questions grouped into five (5) sections. The research methods used in this study were fully discussed above. This next chapter four presents the data analysis conducted for the study in achieving the study objectives. Statistical Package for Social Scientists (SPSS) version 26 was used for analyzing the data obtained from the administered questionnaire.

3.10 Ethical Considerations

The American Psychological Association (2019) provides highly instructive guidelines that in conducting research with human participants and nonhuman animal subjects, they both have the right to ethical and humane treatment. The ethics refers to values or principles by which what is right or wrong is adjudged. In observing ethical considerations for this study, the researcher was guided by the following ethical principles discussed below.

3.10.1 Autonomy

The researcher has an onerous duty to assure the participants of privacy of their information in any given research endeavor. The participants in this study will enjoy anonymity and information provided on research instruments will not reveal their identities. This researcher has made effort to remove identities such as name of company, address and others that can be used by non-participants or readers to decode the identities of companies and management staff that will serve as research participants. The privacy of respondents or participants will be assured without divulging or breaking the promise given to them. As noted by that researchers are sometimes forced to omit certain aspects of participants' identities to ensure ethical principles. Thus, this researcher has an onerous task of observing ethical guidelines and principles when the research is on-going and after the study has been concluded. The anonymity is guaranteed through concealment of identification. Therefore, nothing to be afraid of as the research participants will enjoy anonymity of identity during and after the study.

More so, informed consent which is very important in research will be ensured by the researcher to fulfil ethical obligation. Contend that participants have the inalienable right to be informed about being researched and should be allowed to exercise discretion whether to partake or not. In this study, the consent of research participants has been taken into consideration and the researcher has made efforts to explain this on consent form. This further serves as evidence that participants will never be coerced or pressurized to participate rather it will be a voluntary participation. Thus, the consent form will be attached to each research instrument and the participants may pull out at any given time if he/she feels to do so.

3.10.2 Beneficence

The principle of beneficence deals with overall benefits that research outcomes promise to deliver which may be in the form of new knowledge to research participants and society at large. The study will be of immense benefit to the research participants in the area of project management who are South Africa startups companies and would-be-research participants in this study. Specifically, it will be of immense benefits to them in the areas of application, benefits, implementation and challenges of project management in SA startups. In other words, the intended outcome or findings of this study which researcher will communicate back to them would be a pivotal tool in implementing project management in their companies, and this will help them to

know the pitfall to avoid while implementing or experimenting it. These companies too will equally become mentors to the future startups companies who may want to apply project management. This will create chain benefits and ultimately the society will benefit immensely. It will equally enrich new bodies of knowledge as the research community gains too.

3.10.3 Non-Maleficence

The two terms non-maleficence and beneficence are like two sides of a coin. Maleficence dictates that the researcher must prevent intentional harm and minimize potential harm that participants may suffer in research. In essence, researchers must ensure that participants are not subjected to any form of risk that can endanger their wellbeing. The researcher has made all efforts to ensure that no any form of harm happens to research participants. Some of the measures taken by researcher is to remove any materials in the research instruments that can disclose the identities of these startups companies selected for the study and management staff. They will anonymously respond to the questionnaires and when writing reports of the findings, their identities will still be concealed and if required pseudonyms will be used which will be known to only this researcher. Therefore, every step to guarantee its safety from harm has been taken into the consideration. Thus, the reputational image of the startups companies will be well protected from harm with all the steps taken.

3.10.4 Justice

Beneficence and non-maleficence are like two sides of a coin. Both have been dealt with to ensure the issue of justice is ethically taken into consideration as required in the research. This is done by minimizing harm and maximizing benefits as stated earlier above. The startups companies were purposefully selected without any bias or special consideration for any group. Those purposefully selected are not known to the researcher except that they possess attribute that can elicit needed or necessary information for this study. Thus, measures to ensure justice has been taken into consideration and benefits will be accrue in no small way to the research participants.

3.11 Chapter Summary

This chapter discussed the research methodology that guided this study. The research approach that guided the study which was a quantitative approach was equally justified. In addition, this chapter examined research design that guided the study of descriptive survey design. The chapter

further examined the population of this study which includes founders, co-founders, senior project managers, senior management team members and heads of operations of startups companies who were purposely selected to elicit information on startups companies in South Africa. The sample and sampling technique that was used for the study in selecting research participants for data collection was purpose sampling technique. The startups companies were purposely selected without any bias or special consideration for any group. The sum of one hundred and twenty-five questionnaires were sent out to the study participants of startups companies in South Africa while Sixty-three (50.4%) participants of the sampled companies returned the questionnaires. Furthermore, the data collection method which is a structured questionnaire was equally explained in this chapter. This chapter was concluded with discussion on validity and reliability; data collection procedures and analysis; and ethical considerations such as autonomy, beneficence and so on. Despite world pandemic (coronavirus) it has an effect during the data collection. The next chapter (chapter four) discusses data analysis and presentation arising from data collected from the field.



CHAPTER FOUR

4.0 Results and Discussion

4.1 Introduction

This study uses a quantitative analysis method to collect data through the means of survey by administering questionnaires on different questions grouped into five (5) sections. The research methods used in this study were fully discussed in chapter three. This chapter presents the data analysis conducted for the study in achieving the study objectives. Statistical Package for Social Scientists (SPSS) version 26 was used for analyzing the data obtained from the administered questionnaire. The results of these analyses are discussed accordingly, tables and bar charts are used for illustrations. Finally, the results of data analysis from each section of the questionnaire are discussed below by section.

4.2 Demographic data

The results discussed in this section are based on the sixty-three (50.4%) questionnaires received out of the one hundred and twenty-five questionnaires administered. The figures below represent the bar charts of the questions in section A of the questionnaire. The responses to each question and percentage of responses are represented on the horizontal and vertical axes respectively.

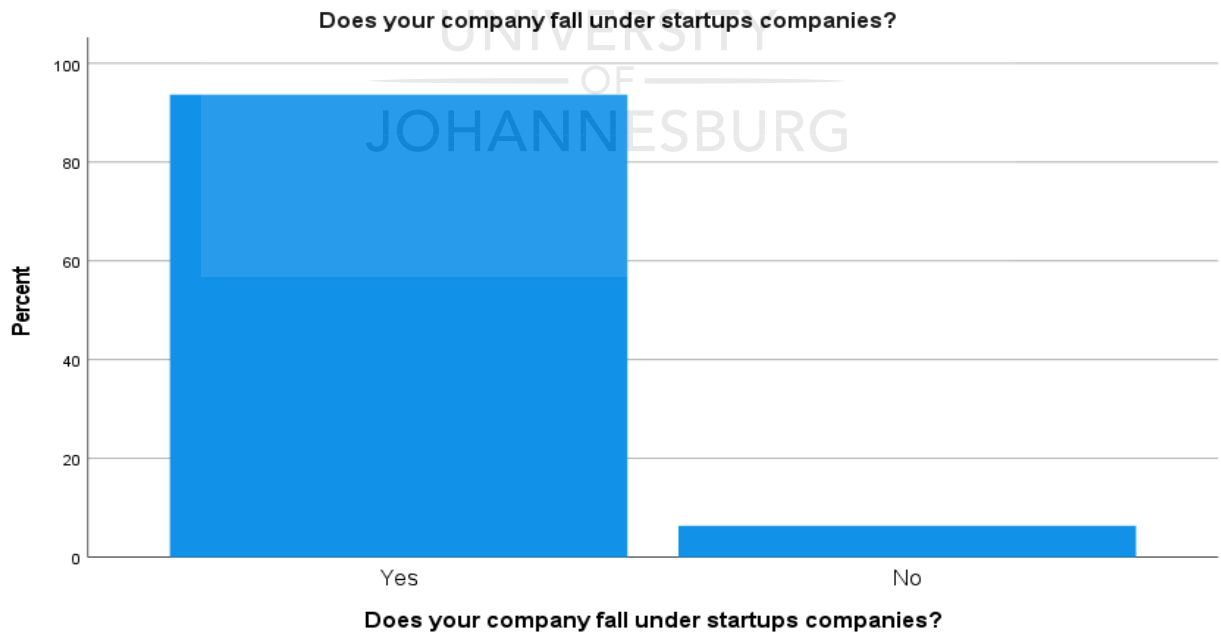


Figure 4:1 Diagram showing if a company is a startups.

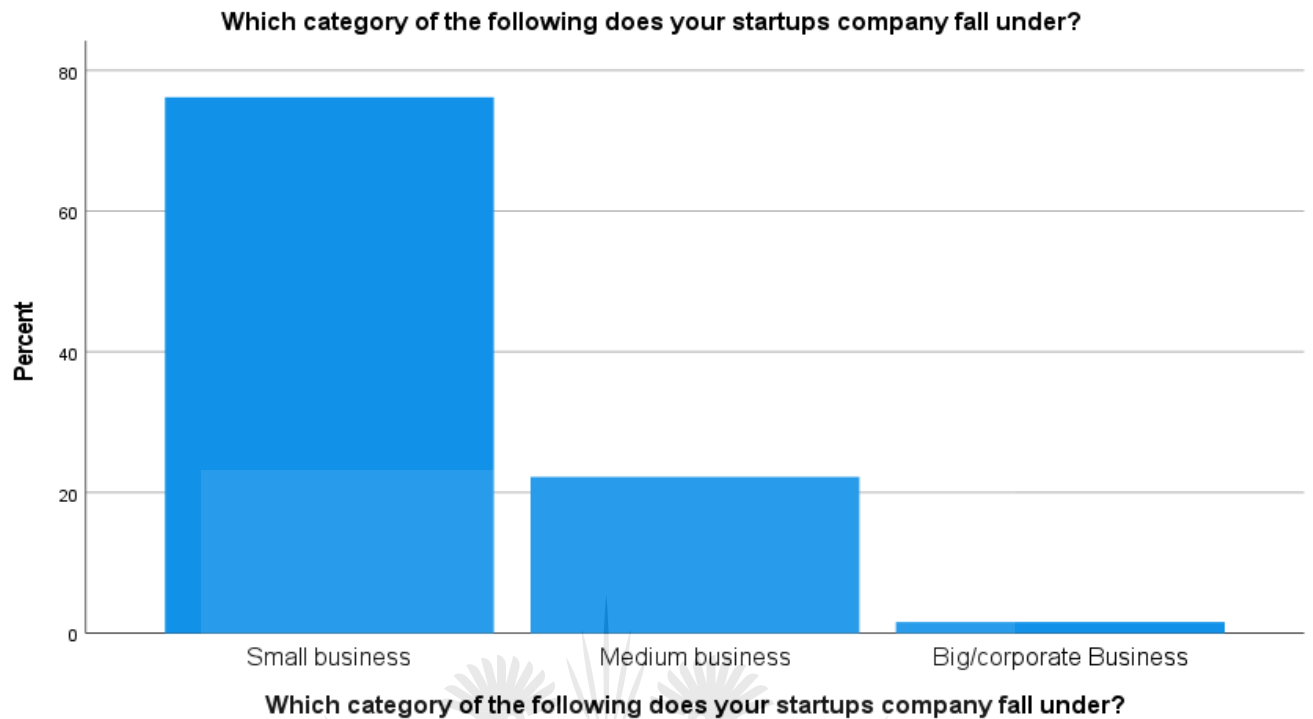


Figure 4:2 Category of Startups Company

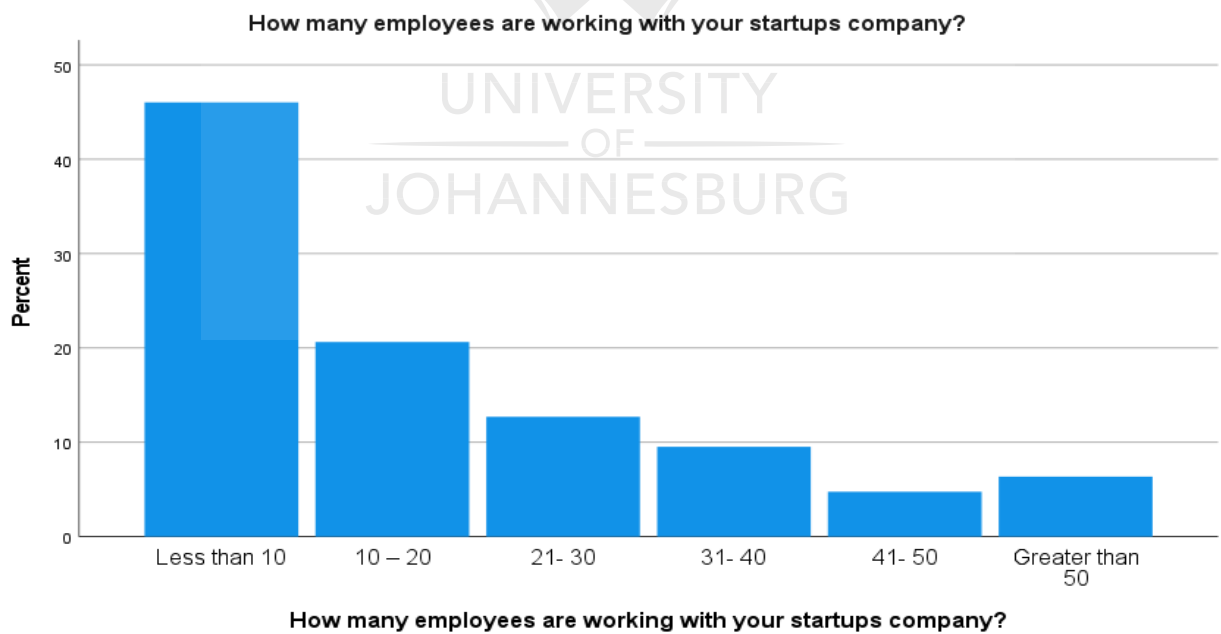


Figure 4:3 Category of number of employees

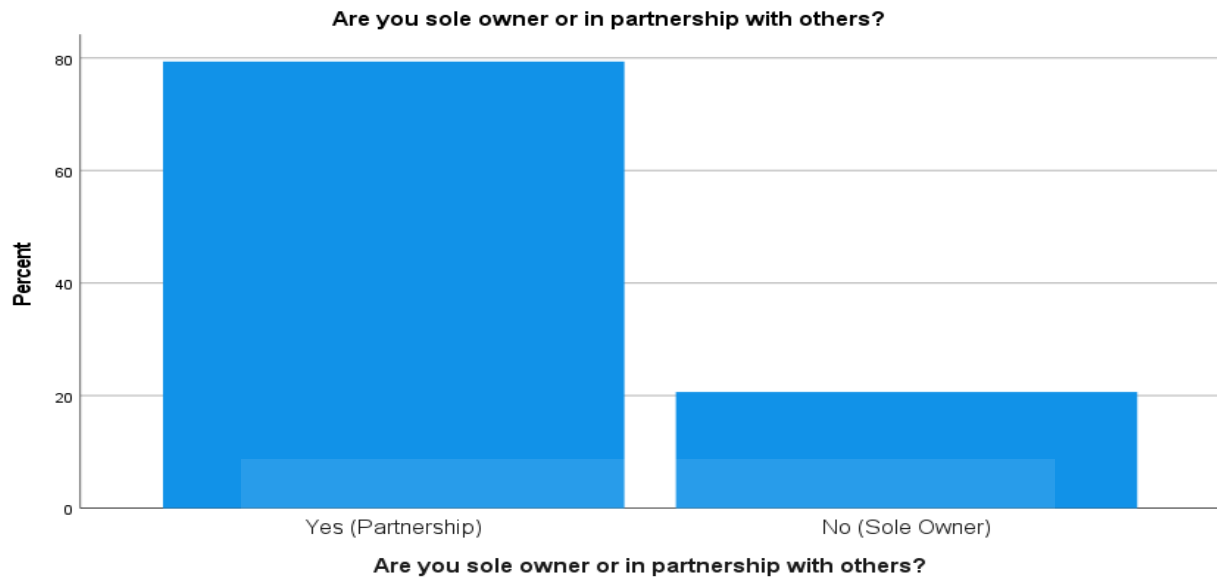


Figure 4:4 Ownership of startups companies

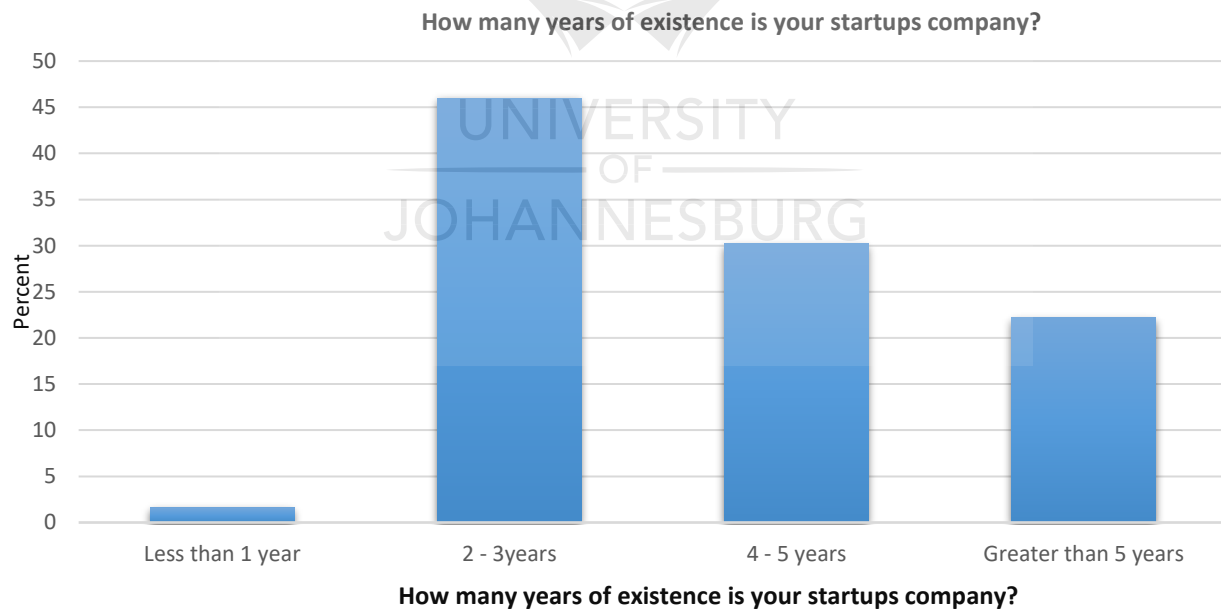


Figure 4:5 How many years of existence is your startups company?

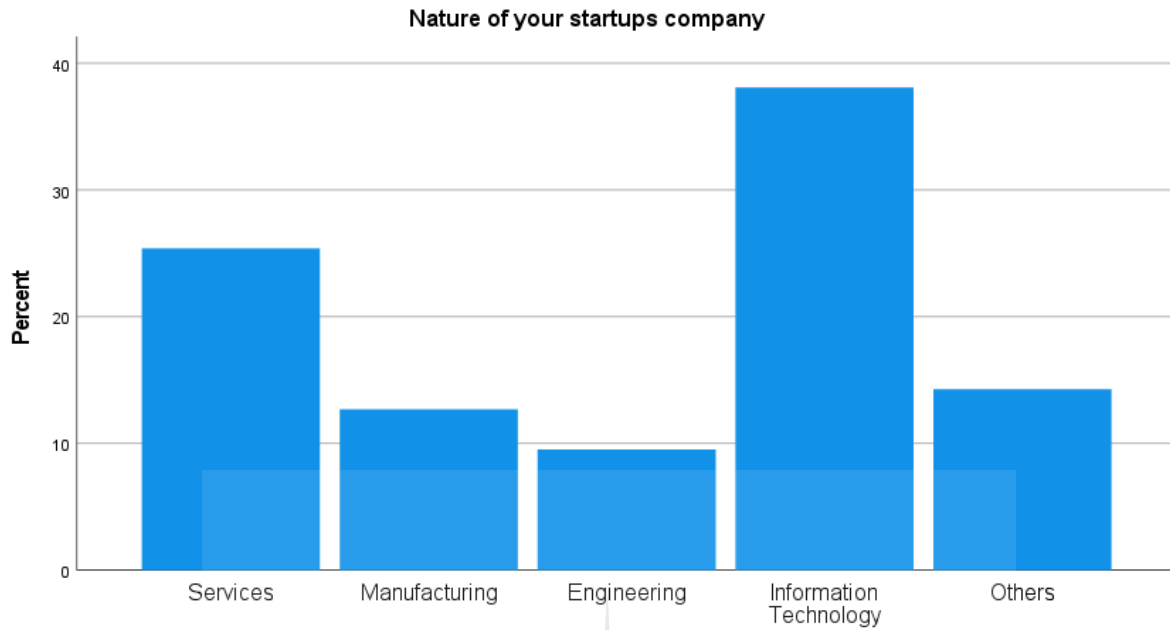


Figure 4:6 The nature of startups companies.

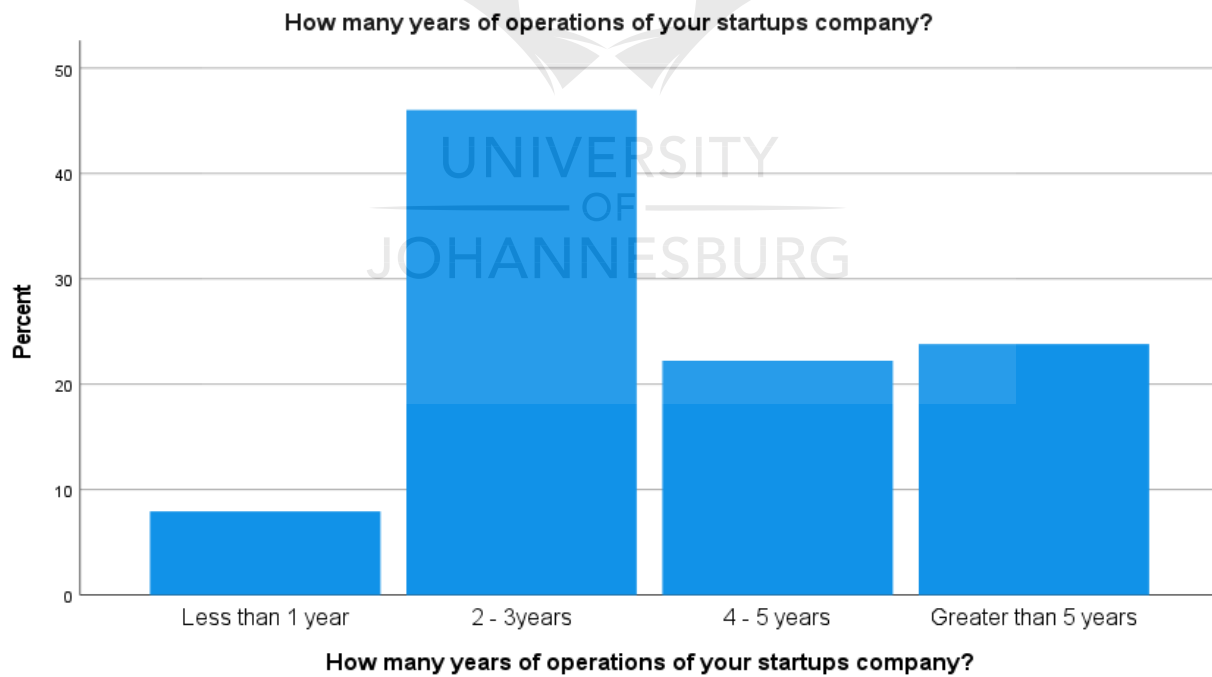


Figure 4:7 The years of operations of startups companies

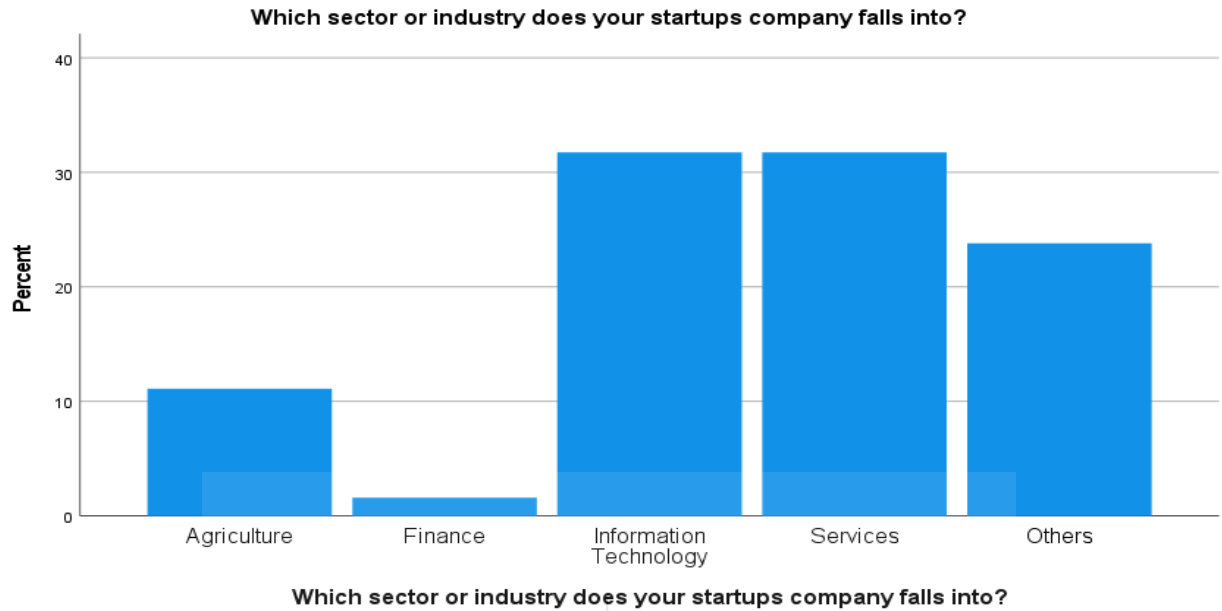


Figure 4:8 Which sector or industry does your startups company falls into.

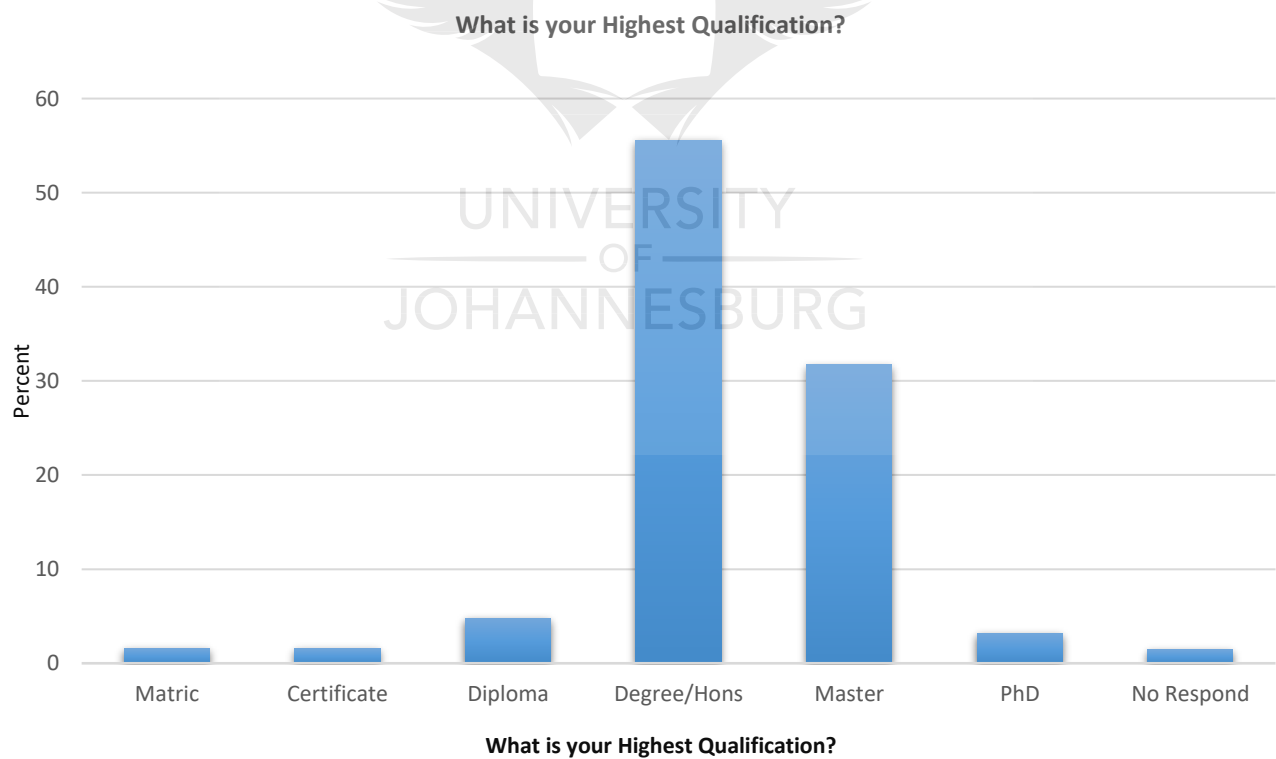


Figure 4:9 Classification of qualifications

Figure 4.1 showed that respondent claimed 93.7% of the company falls under the startups companies although the selected startups companies were purposefully selected based on the criteria used in the selection of startups companies. All the respondents meet up with the criteria set by the researcher. That is why total enumeration of all respondents that returned the instrument was used. The **fig 4.2** showed 76.2%; 22.2% and 1.6% of the companies fall under the small business, medium business and big/corporate business respectively. **Figure 4.3** which represents 46% of the companies sampled have less than ten employees, 20.6% have between ten and twenty employees and, 12.7% have twenty one and thirty employees, 9.5% thirty one and forty employees, 4.8% forty and above employees. **Figure 4.4** showed that partnership is the leading type of ownership with 79.4% while only 20.6% sole ownership while **fig 4.5** revealed 76.2% of the companies have been in existence between zero to three years (0 to 3 years) while the remaining 23.8% of the businesses have been existence for more than three years. On the nature of the startups companies, **fig 4.6** showed Information technology is the leading nature/sector of startups with 38.1% followed by services with 25.5% while engineering is the least with 9.5%. The years of operations of the most respondents shows that 7.9%, 46%, 22.2% and 23.8% for less than a year, 2 to 3years, 4 to 5years and greater than 5years respectively in **fig 4.7**. The **fig 4.8** shows that information technology and service industry has the highest numbers of startups with 31.7% each. **Figure 4.9** revealed that the following qualifications of the startups owners with 1.6% have matric and also 1.6% have certificate, 4.8% Diploma, 55.6% of them have bachelor/honours qualifications, while 31.7% have master's degree and 3.2% have PhD qualifications.

4.3 Data Analysis of Research Questions

Research Question1: Does project management practice exist in South African startups companies?

4.3.1 Existence of project management in South Africa Startups companies

It shows that 98.4% of the startups companies have heard of project management (figure. 4:10) with 96.8% of them understanding what project management means (fig 4:11). All the startups who have heard of project management are aware of executing a project in their startups' companies in South Africa. Also, of the 98.4% of startups who have heard of project management (fig 4:12), 95.2% have an idea of what project management means and have basic knowledge of project management principles (fig 4:13). Besides, 82.3% of them are using project management

tools in their companies. Whereas only 66.7% of the startups companies have training on project management (fig 4:14), and 81% of them are using project management tools while 75% of those who have never had training on project management are also using project management tools (**Appendix C**). This implies that project management tools are used by some companies without knowing and having any training but realized it is being used.



Figure 4:10 Have you heard of projects management.

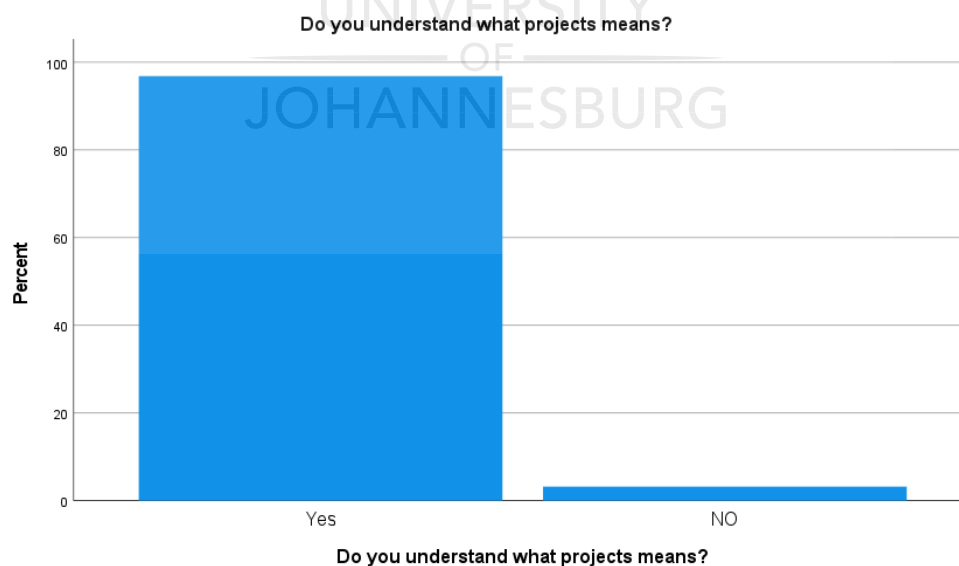


Figure 4:11 Do you understand what project means?

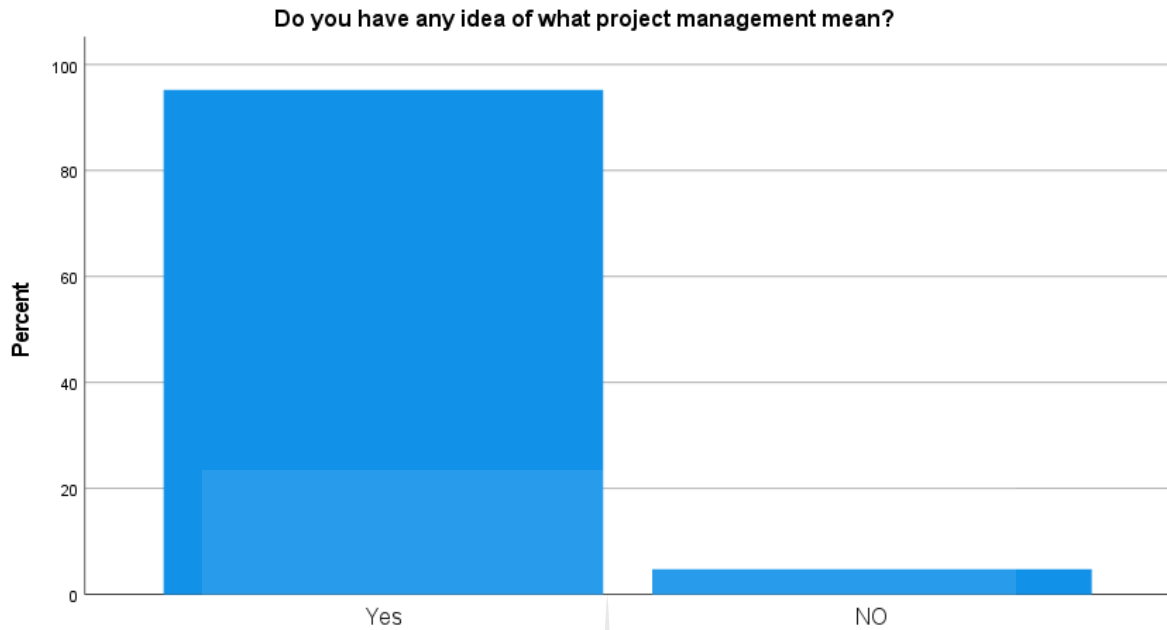


Figure 4:12 Do you have any idea of what project management mean?

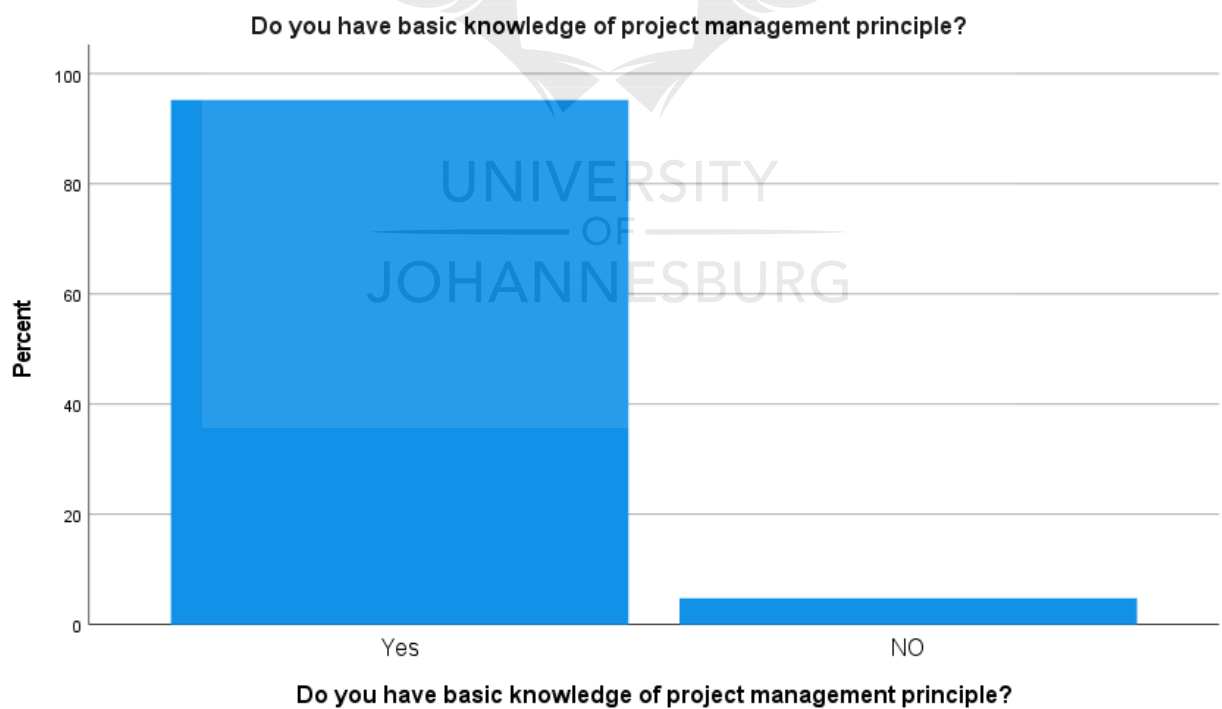


Figure 4:13 Do you have basic knowledge of project management.



Figure 4:14 Have you ever had any training on project management.

Research Question 2: What is the level of project management application in South African startups companies?

4.3.2 Level of the project management application in South Africa startups companies

85.7% of the startups companies who are using project management tools attest to the high level of the project management application in their companies (fig. 4:15). Also, 85.7% of the 81% of business owners who are using project management tools, have executed several projects with project management application tools and principles (fig. 4:16). It is worth noting that 41.7% of those who do not use the project management tools also have executed several project management application tools and principles. Besides, all the 76.2% of the startups companies who agreed that the level of project management principle and techniques by their company staff is excellent having executed several projects with project management application tools and principle (fig. 4: 17). (Appendix D).

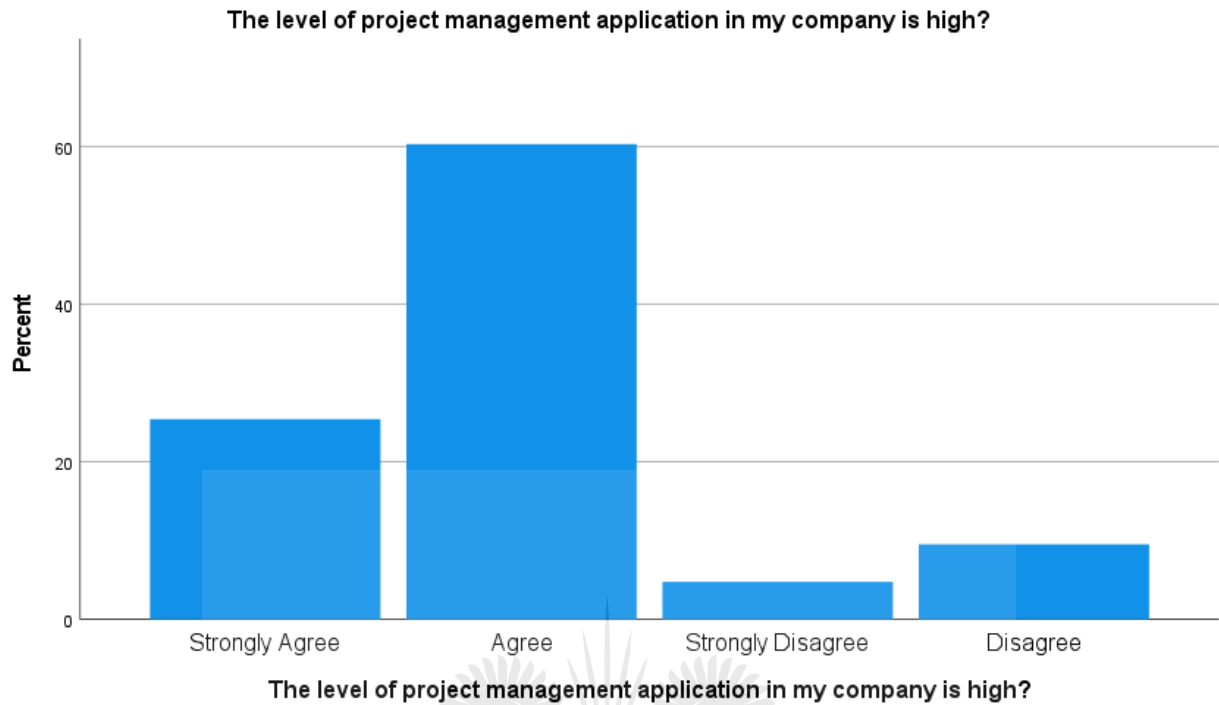


Figure 4:15 The level of project management application in my company is high.

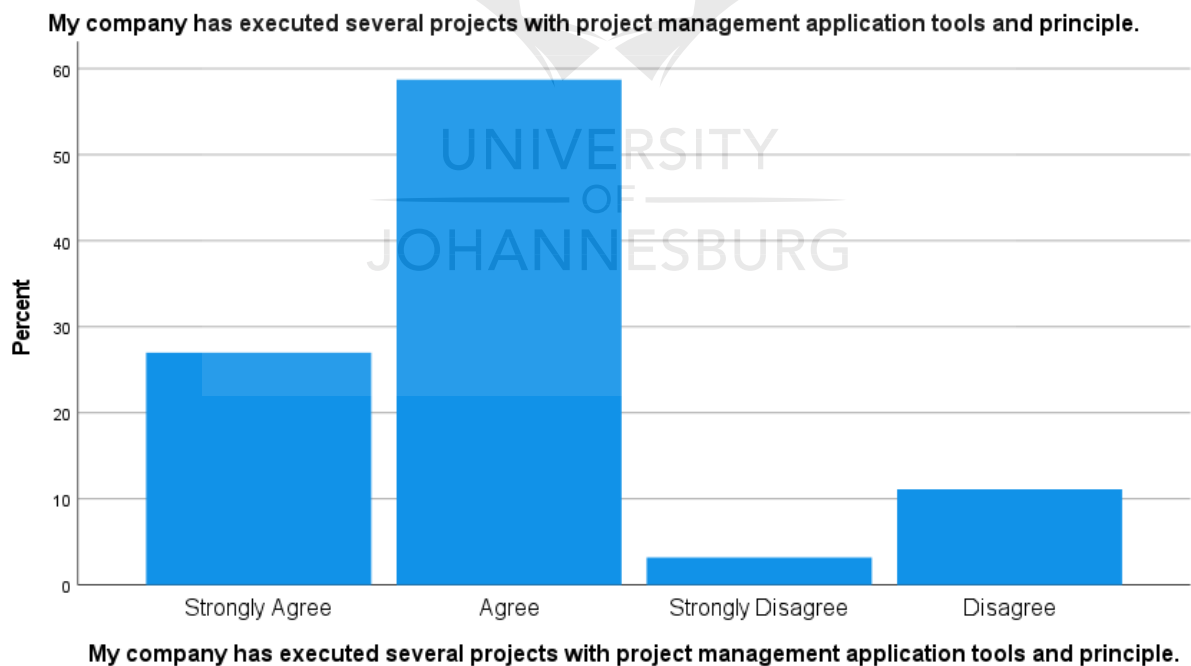


Figure 4:16 My company has executed several projects with project management application tools and principle.

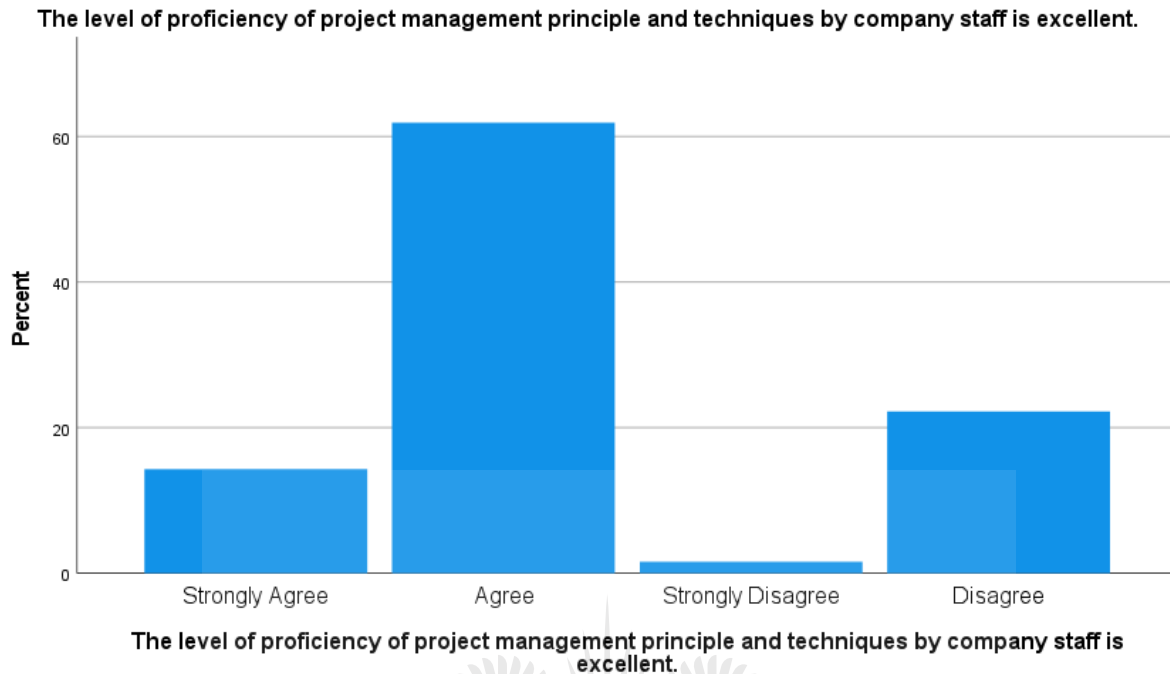


Figure 4:17 The level of proficiency of project management principle and techniques by company staff is excellent.

Research Question 3: Does project management application contribute to the success of South African startups companies?

4.3.3 Contribution of a project management application to South Africa startups companies

90.5% of the startups companies agreed that the effect of the application of project management in timely execution of projects is evident (fig. 4:18) and 85.7% agreed that its impact on startups companies is high (fig. 4:19). On the other hand, 81% of the startups companies agreed that project management has brought about job creation in South Africa (fig. 4:20) and 66.6% agreed that project management application has indirectly contributes to the economic growth of South Africa (fig. 4:21). Besides, 87.3% of the startups companies claimed that project management has positioned their companies into global competitiveness (fig. 4:22). On the other hand, 92.1% are in favour of the claim that project management application contributed to the effectiveness and efficiency of startups companies and that it increases the profitability of startups companies (fig. 4:23). It is worthwhile to know that 90.5% of the business owners agreed that the project management application helps in delivering quality projects to clients. This finding is in line with

that of [14] which revealed that through the application of theories, tools, methodology and skills of project management, several organizations have witnessed change (which includes increase in profitability, value, competitiveness, performance, growth etc.) in their organizations, companies, and even in the society. Spalek equally attested to the contribution of project management that investing in PM really payoff in organization.[43] This is also in line with the finding of this present study that project management application in many organizations has resulted indirectly to country economic growth, jobs creations, global competitiveness, while increasing organizations' values, effectiveness, efficiency, profitability etc. [30] (**Appendix E**).

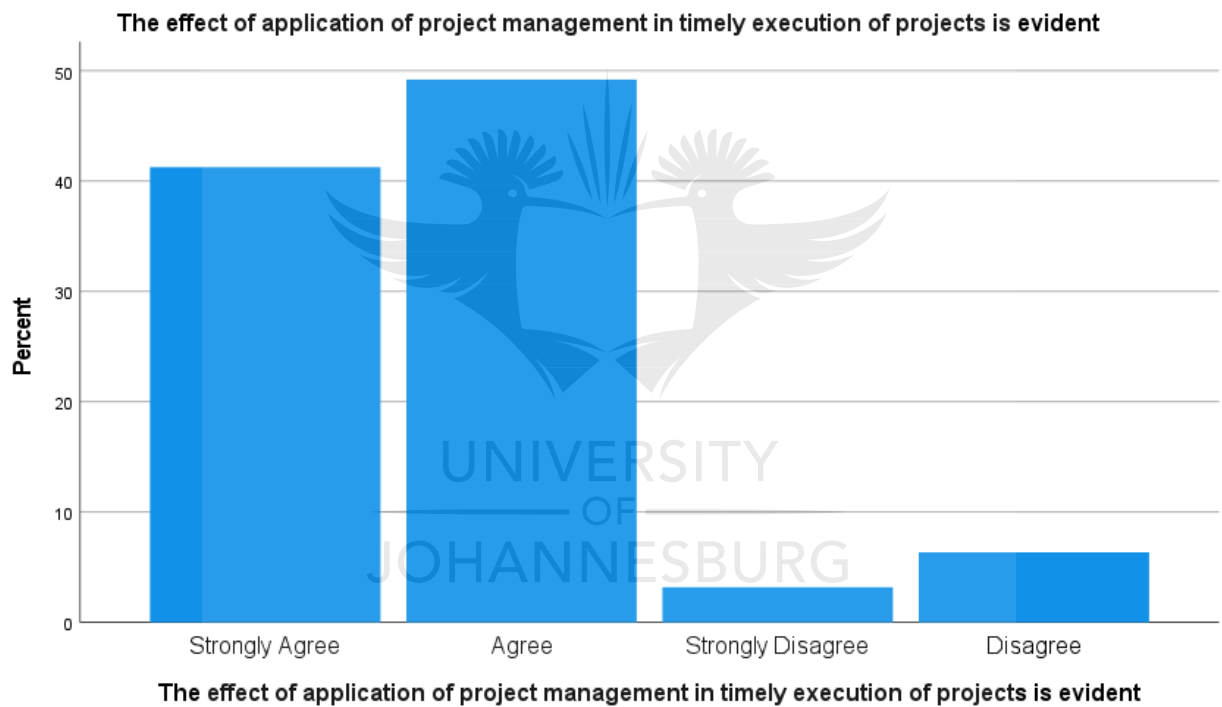


Figure 4:18 The effect of application of project management in timely execution of projects is evident.

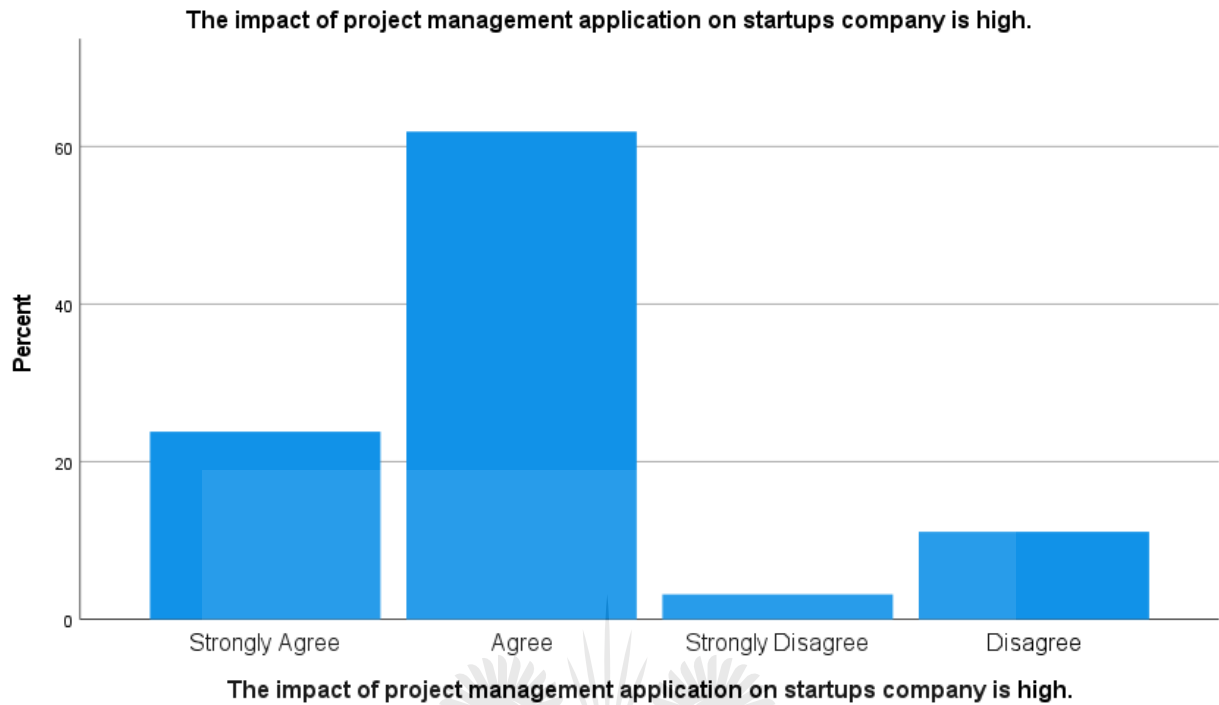


Figure 4:19 The impact of project management application on startups company is high.



Figure 4:20 The project management has brought about job creation in South Africa

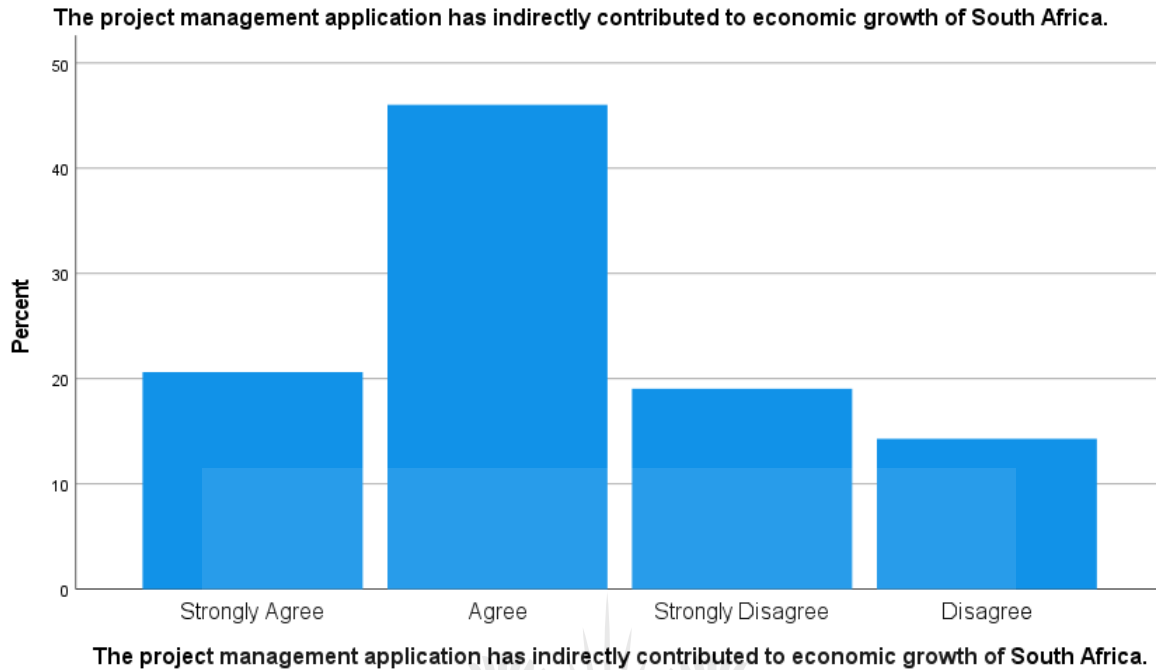


Figure 4:21 The project management application has indirectly contributed to economic growth of South Africa

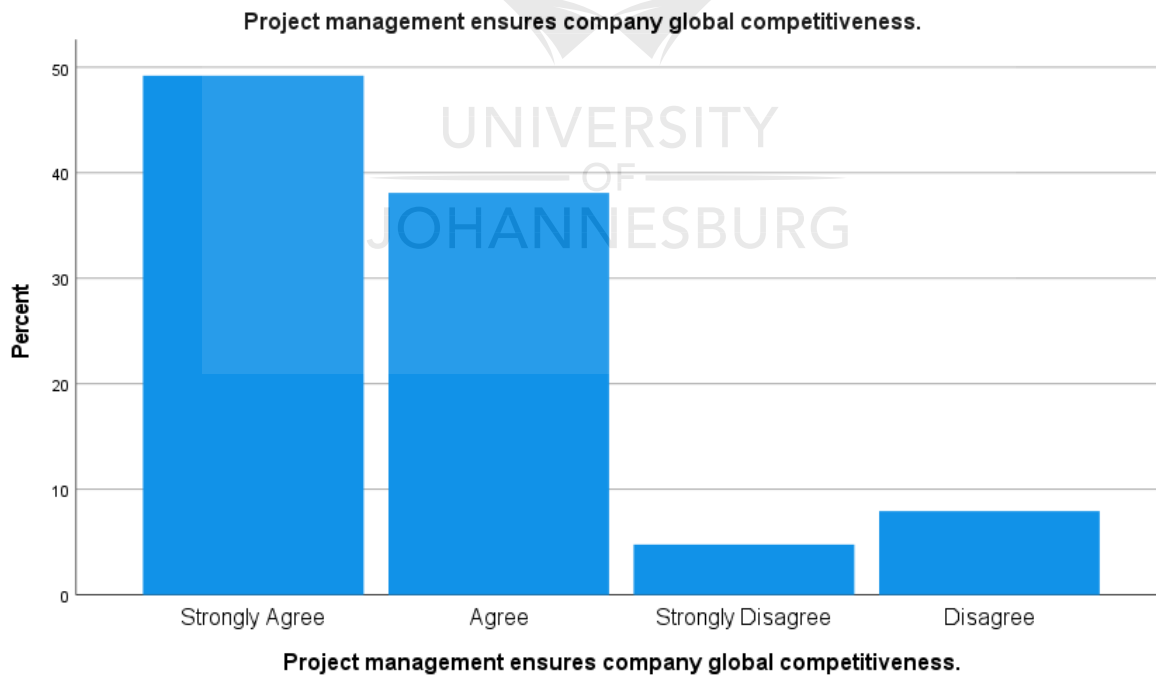


Figure 4:22 Project management ensures company global competitiveness

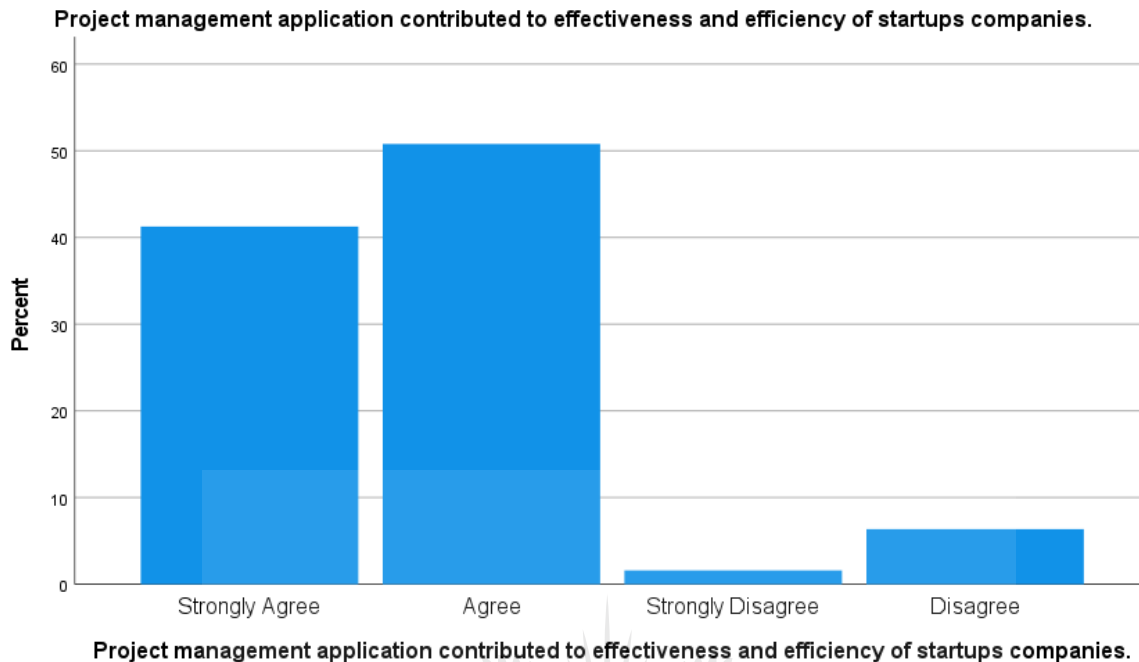
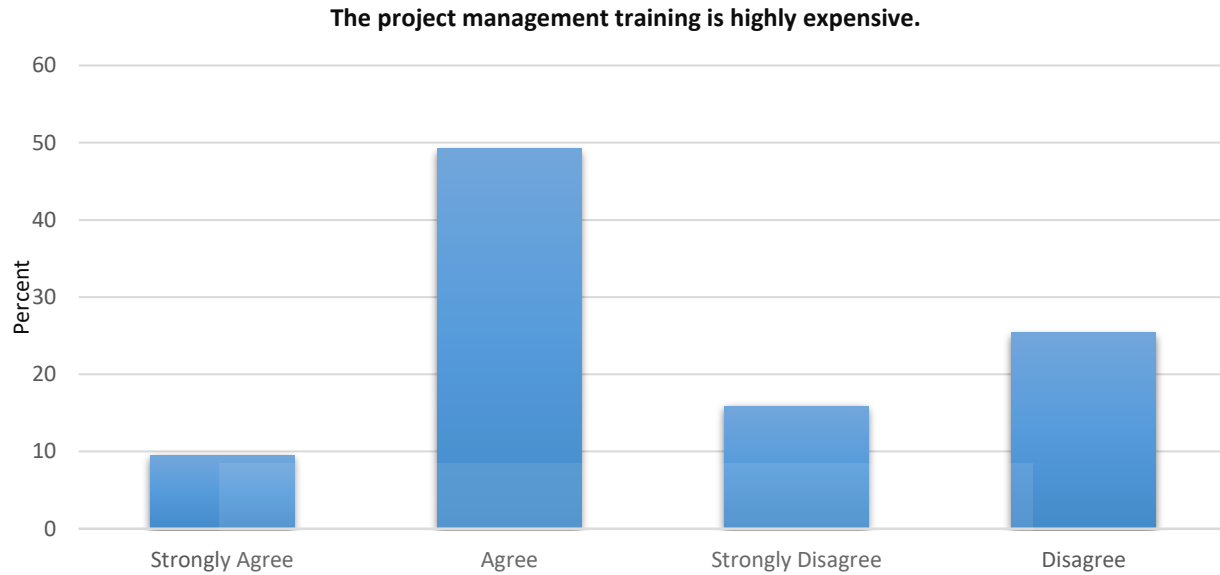


Figure 4:23 Project management application contributed to effectiveness and efficiency of startups companies

Research Question 4: What are the challenges of project management application in South African startups companies?

4.3.4 The challenges of the project management application in South Africa startups companies

58.7% of the startups companies agreed that the project management training is highly expensive (fig. 4:24) and 65.1% agreed that startups companies encounter challenges with the use of project management tools (fig. 4:25). On the other hand, 79.4% of the startups companies agreed that, some clients cannot afford the cost of a project management application to projects (fig. 4:26) and 82.6% agreed that the introduction of the project management to the startups' companies means additional cost. Also, 55.6% of the business owners disagreed that some staff find it difficult to adapt to project management applications (fig. 4:27). and that 65.1% agreed that project management application require a high level of proficiency (fig. 4:28). Finally, 77.8% of the business owners disagreed that lack of support from the government has made project management unpopular in South African startups companies (fig. 4:29), and 25.4% agreed that project management application is only popular among big companies(fig. 4:30). (**Appendix F**)



The project management training is highly expensive:
Figure 4:24 The project management training is highly expensive.

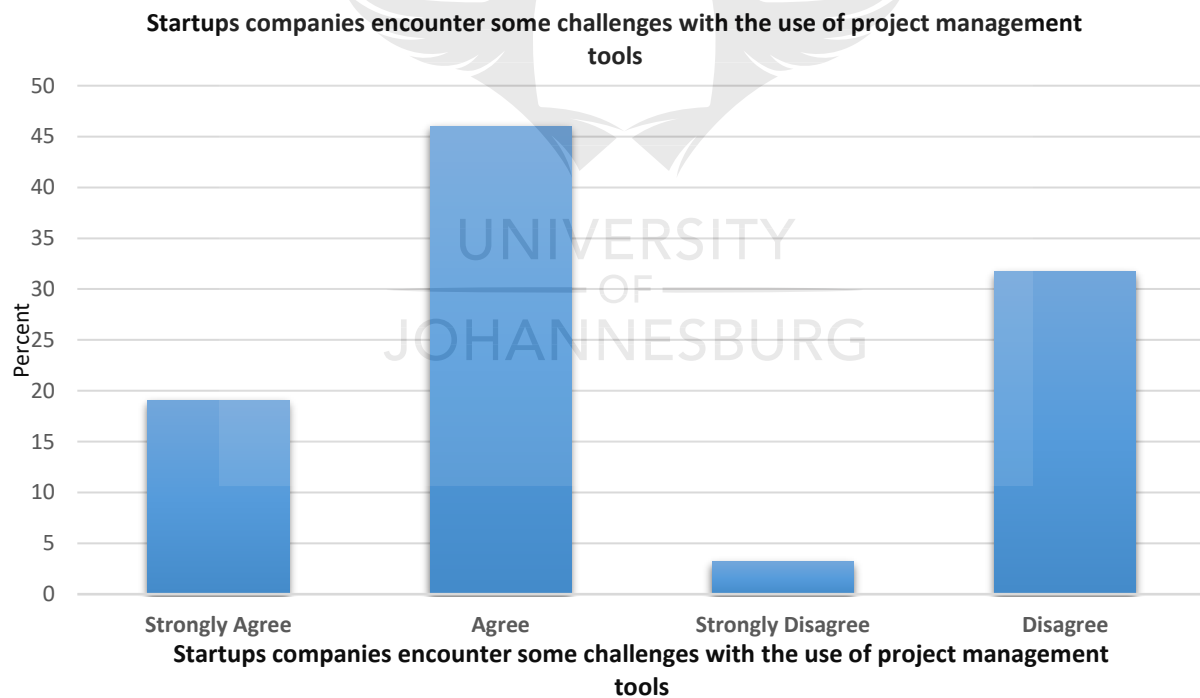


Figure 4:25 Startups companies encounter some challenges with the use of project management tools.

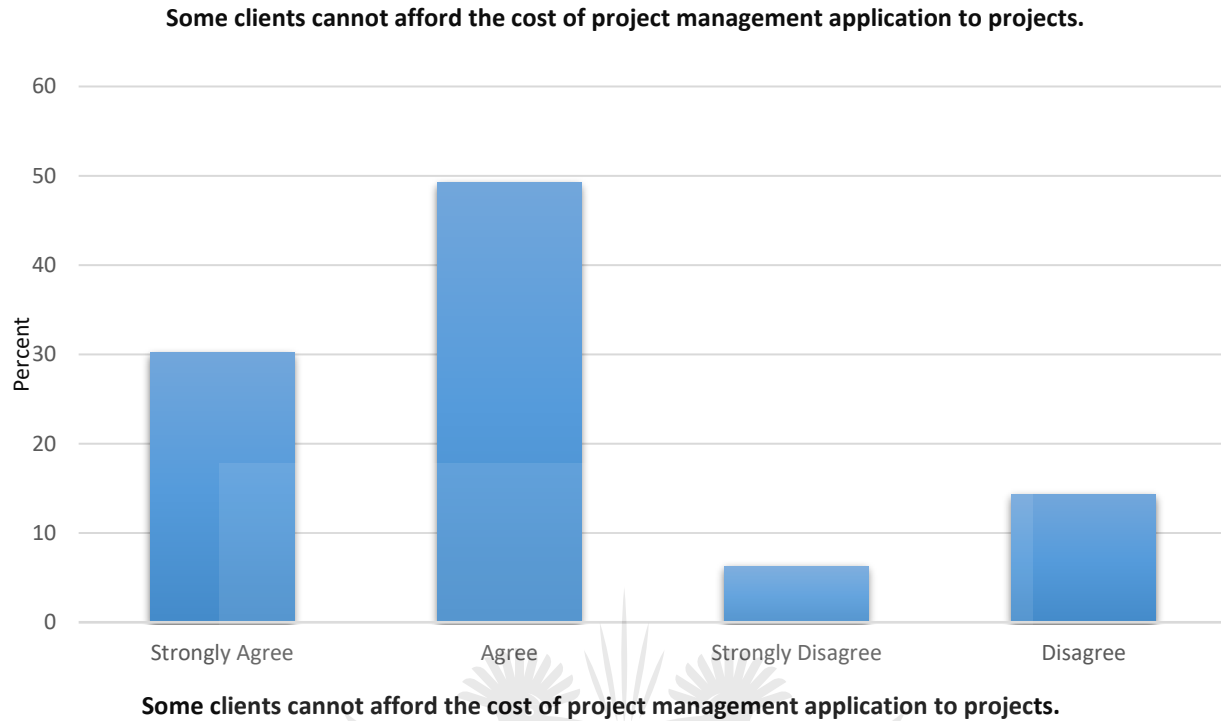


Figure 4:26 Some clients cannot afford the cost of project management application to projects.

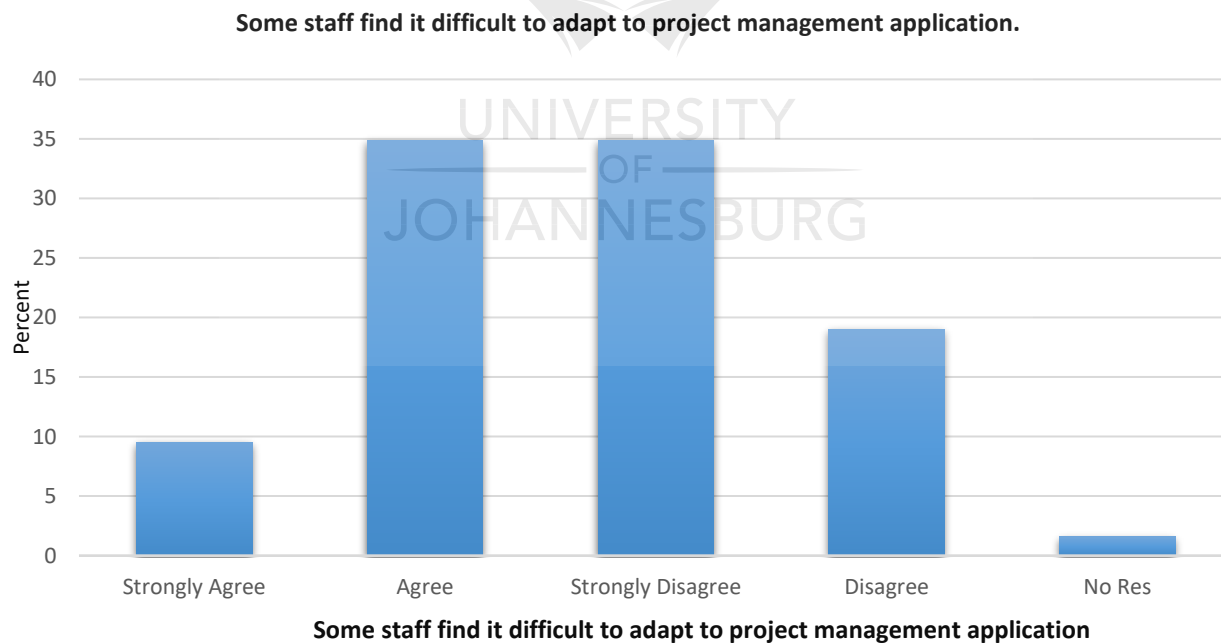


Figure 4:27 Some staff find it difficult to adapt to project management application.

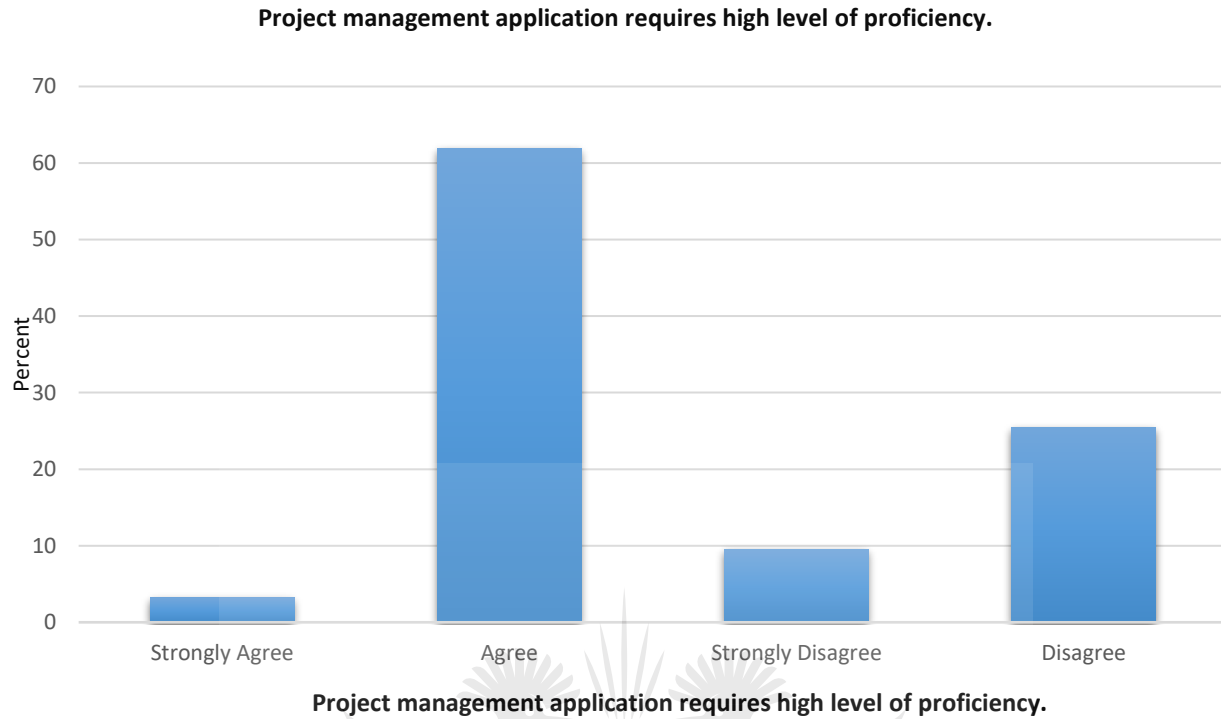


Figure 4:28 Project management application requires high level of proficiency.

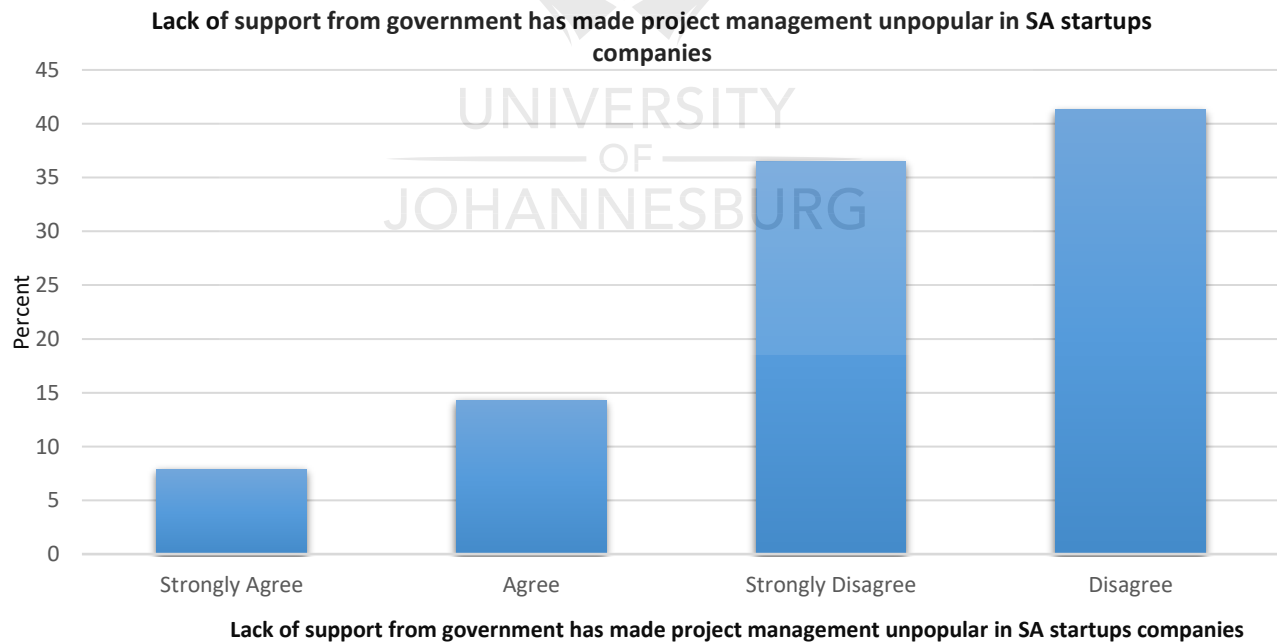


Figure 4:29 Lack of support from government has made project management unpopular in SA startups companies.

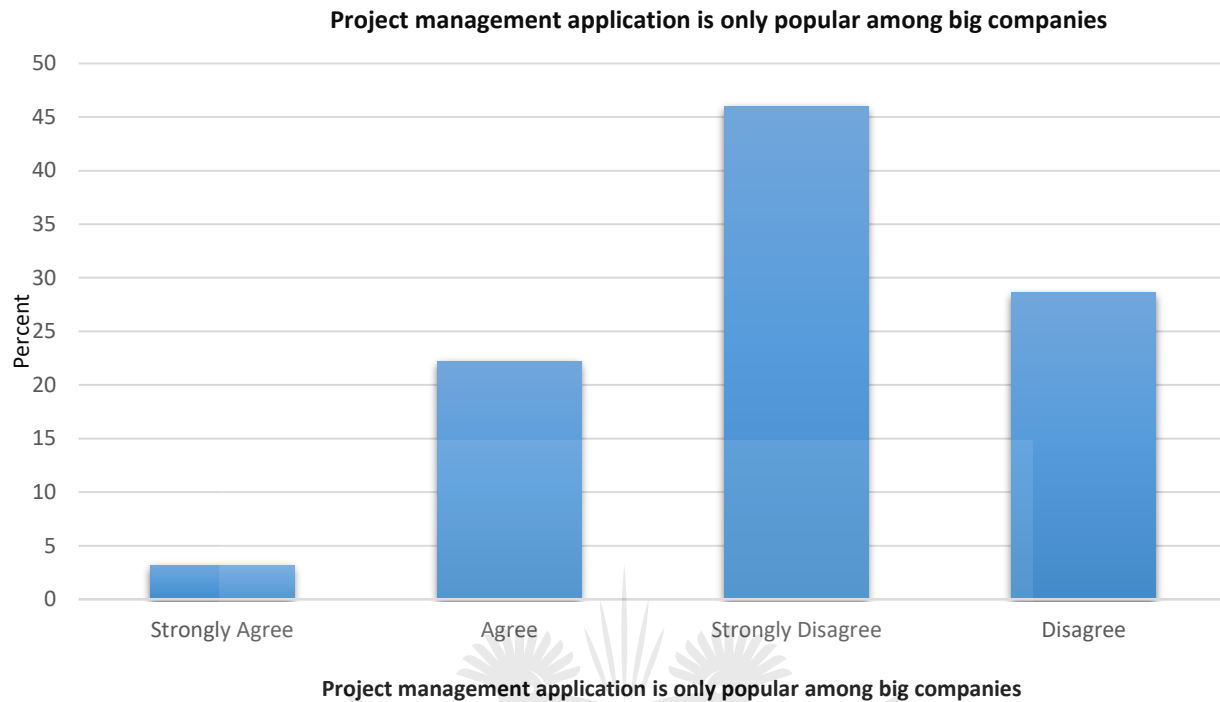


Figure 4:30 Project management application is only popular among big companies.

4.4 Summary of Research Findings

This chapter describes the process of data analysis and presentation in accordance with research objectives of the study and research questions formulated. The demographic data were presented in **figures 4.1 to 4.9**. The quantitative data collected through questionnaires were analysed under key variables of the study as follows: existence of project management in South Africa Startups companies, level of the project management application in South Africa startups companies, contribution of a project management application to South Africa startups companies and challenges of the project management application in South Africa startups companies. While the appendix 1 to 5 shows the representation. The next chapter five presents the summary of the findings, conclusion and recommendations.

CHAPTER FIVE

5.0 Conclusion and Recommendations

5.1 Introduction

In this chapter, the summary of the research work is presented, highlighting the findings and recommendations are given. The conclusion of the study and number of suggestions for further research studies.

5.2 Summary of findings

This study investigated the project management application in the South African startups companies. The study adopted survey research design. Four research questions were answered in the study with the instrument. The instrument comprises five sections which was used to collect data for the study and the data collected were analyzed using descriptive statistics methods. The findings from the study are summarized thus:

- It is accounted that 98.4% of all the startups understand and know about project management. Thus, the existence of project management in South Africa startups companies is not in doubt as 82.3% confirmed to be using project management principle and application tools. However, some companies are using project management tools without knowing and having any training in project management. Although 85.7% confirmed they have done training in project management.
- Most of the startups companies (85.7%) who are using project management tools attest to the high level of the project management application in their companies. 85.7% of startups companies confirm the execution of several projects with project management application principles and tools. The level of proficiency of the staff in project management application is 76.2%.
- Several startups companies agreed that application of project management contributed to timely execution of projects in startups companies.
- And 85.7% of respondent agreed that the impact of project management is high. In addition, the startups companies agreed that project management has brought about job creation in South Africa and that project management application has indirectly contributed

to the economic growth of South Africa. Majority of the startups companies agreed that project management helps in global competitiveness, increase in profitability and effectiveness and efficiency of startups.

- High proportion of respondents of startups companies agree that application of project management tools by startups companies in South Africa brings along challenges of an additional cost which some clients cannot afford.

5.3 Evaluation of Study Based on Study Objectives

Considering the research objectives of the study and the results of the finding. The study were able to establish following:

- To establish if project management practice exists in South African startups companies.
- To examine the level of project management application in South African startups companies.
- To verify the contributions of project management application in South African startups companies.
- To identify the challenges and proffer solution to the project management application in South African startups companies.

Firstly, the results of the finding show that project management practice exists in South African startups companies in which 81% of the respondents confirmed using the project management principle and application tools. The level of project management application was confirmed by the respondents totaling 81.0% that attest to high level of project management in their companies.

The majority of the respondents agreed that project management application contributes to their startups' companies in timely execution of project, global competitiveness, profitability, improved effectiveness and efficiency in their startups' companies. However, the challenge of additional cost of application of project management to project execution was identified as a barrier to project management in startups companies in South Africa.

5.4 Conclusion

Based on the results of the findings and observations made during the study, the existence of project management in South Africa startups companies is not in doubt. However, some companies are using project management tools without knowing and having any training. This means that there is still a need to support training of startups companies who are not formally trained. Most

startups companies who are using project management tools attest to the high level of the project management application in their companies, meanwhile there is a need for improvement.

Several startups companies agreed that application of project management contributed to timely execution of projects in startups companies. In addition, the respondent startups companies agreed that project management has brought about job creation in South Africa and that project management application has indirectly contributed to the economic growth of South Africa. The economy and development of South Africa has been greatly affected this year by the world pandemic coronavirus (covid-19) with many businesses and companies closing down which also has an adverse effect on startups companies. The application of project management in startups companies will help startups to be more successful and contribute to the process of reviving the South Africa economy. This means that application of project management requires being given more deserved attention both by the government and startups companies

The respondent startups companies agree that application of project management tools bring along challenges of an additional cost and in which some clients cannot afford. There is a need to find out means of mitigating the effect of additional cost of application of project management so that several clients can benefit from project management tools.

5.5 Recommendations

The startups companies need continuous capacity building and training on project management to their staff so as to increase the level of application of project management. The founder of startups companies should encourage and champion the implementation and application of project management in their companies. Manpower exchange is recommended for sharing of new innovations and emerging practices on project management among startups companies in South Africa. There is a need to find out means of mitigating the effect of additional cost of application of project management so that several clients can benefit from project management tools.

5.6 Suggestion for further study

The comparative study on project management application tools between public and private sectors. Other variables that can influence project management application other than those examined could be studied as well.

The fourth industrial revolution (4IR) can be explored by all organizations that apply project management and also in startups companies. In essence, such research findings will be able to affirm and establish the intersections, relationship and benefits of applications of 4IR to project management in startups companies. The possible impact of 4IR on project management in startups companies may be studied as well. The capacity of 4IR to create disruptive phenomena in project management either to create millions of jobs or otherwise is worth researching.



REFERENCES

- [1] M. Olaru, I. C. Pirnea, A. Hohan, and M. Maftai, "Performance indicators used by SMEs in Romania, related to integrated management systems," *Procedia-Social and Behavioral Sciences*, vol. 109, pp. 949-953, 2014.
- [2] O. Jones, A. Macpherson, and D. Jayawarna, *Resourcing the start-up business: Creating dynamic entrepreneurial learning capabilities*: Routledge, 2013.
- [3] T. Mengistae, "Competition and entrepreneurs' human capital in small business longevity and growth," *The Journal of Development Studies*, vol. 42, pp. 812-836, 2006.
- [4] A. Krishna, A. Agrawal, and A. Choudhary, "Predicting the Outcome of Startups: Less Failure, More Success," in *Data Mining Workshops (ICDMW), 2016 IEEE 16th International Conference on*, 2016, pp. 798-805.
- [5] E. W. Okwuonu, "Small Business Management," ed Nigeria National Open University 2015.
- [6] S. Mxunyelwa and D. Vallabh, "Skills as impediment to small and medium tourism enterprises (SMTes), Eastern Cape, South Africa," *African Journal of Hospitality, Tourism and Leisure*, vol. 6, pp. 1-8, 2017.
- [7] R. Luecke, *Managing projects large and small: the fundamental skills for delivering on budget and on time*: Harvard Business Press, 2004.
- [8] A. Oe and H. Mitsuhashi, "Founders' experiences for startups' fast break-even," *Journal of Business Research*, vol. 66, pp. 2193-2201, 2013.
- [9] J. C. Haltiwanger, R. S. Jarmin, and J. Miranda, "Who creates jobs? Small vs. large vs. young," National Bureau of Economic Research 2010.
- [10] B. Clarysse and J. Bruneel, "Nurturing and growing innovative start-ups: the role of policy as integrator," *R&d Management*, vol. 37, pp. 139-149, 2007.
- [11] H. Kerzner, *Project management: a systems approach to planning, scheduling, and controlling*: John Wiley & Sons, 2013.
- [12] A. Oe and H. Mitsuhashi, "'Founders' experience for startups' Faster break Even"," *Journal of Business Research* vol. 7, pp. 13-24, 2016.
- [13] R. Turner, A. Ledwith, and J. Kelly, "Project management in small to medium-sized enterprises: Matching processes to the nature of the firm," *International journal of project management*, vol. 28, pp. 744-755, 2010.
- [14] J. R. Meredith and S. J. Mantel Jr, *Project management: a managerial approach*: John Wiley & Sons, 2011.
- [15] P. Guide, "A guide to the project management body of knowledge," in *Project Management Institute*, 2004.
- [16] G. M. M. Herrington and P. Kew, "South African Report."
- [17] B. o. e. research, "The small, medium and micro enterprise sector of South Africa," 2016.
- [18] M. R. a. C. S. P. Ltd, "Analysis of the needs, state and performance of small and medium businesses in the agriculture, manufacturing, ict and tourism sectors in south africa " Small enterprise development agency 2012.
- [19] D. Jura, G. A. Oosthuizen, and J.-H. Pretorius, "The evolution of quality management systems to assist manufacturing entrepreneurs in incubation clusters," 2015.
- [20] F. J. Van Rijnsoever, M. A. Van Weele, and C. P. Eveleens, "Network brokers or hit makers? Analyzing the influence of incubation on start-up investments," *International Entrepreneurship and Management Journal*, vol. 13, pp. 605-629, 2017.
- [21] O. Network, "Understanding Africa's Challenges to Creating Opportunity-driven Entrepreneurship," Accelerating Entrepreneurship in Africa Initiative, developed in partnership with Monitor Group 2012.

- [22] G. E. Monitor, "GEM 2015/2016 Global Report," *United Kingdom: Author*, 2016.
- [23] J. R. Meredith and S. J. Mantel, *Project Management: A managerial approach* Hoboken: John Wiley & Sons, Inc, 2009.
- [24] A. Eve, "Development of project management systems," *Industrial and Commercial Training*, vol. 39, pp. 85-90, 2007.
- [25] M. Hällgren and E. Maaninen-Olsson, "Deviations and the breakdown of project management principles," *International Journal of Managing Projects in Business*, vol. 2, pp. 53-69, 2009.
- [26] M. Niazi, S. Mahmood, M. Alshayeb, M. R. Riaz, K. Faisal, N. Cerpa, *et al.*, "Challenges of project management in global software development: A client-vendor analysis," *Information and Software Technology*, vol. 80, pp. 1-19, 2016.
- [27] P. M. Institute, *A guide to the project management body of knowledge (PMBOK Guide)*. Newtown Square: Project Management Institute, 2012.
- [28] N. Drouin and K. Jugdev, "Standing on the shoulders of strategic management giants to advance organizational project management," *International Journal of Managing Projects in Business*, vol. 7, pp. 61-77, 2013.
- [29] G. Brewer and S. Strahorn, "Trust and the project management body of knowledge," *Engineering, Construction and Architectural Management*, vol. 19, pp. 286-305, 2012.
- [30] A. Badewi, "The impact of project management (PM) and benefits management (BM) practices on project success: Towards developing a project benefits governance framework," *International Journal of Project Management*, vol. 34, pp. 761-778, 2016.
- [31] K. E. Papke-Shields and K. M. Boyer-Wright, "Strategic planning characteristics applied to project management," *International Journal of Project Management*, vol. 35, pp. 169-179, 2017.
- [32] M. L. Todorović, D. Č. Petrović, M. M. Mihić, V. L. Obradović, and S. D. Bushuyev, "Project success analysis framework: A knowledge-based approach in project management," *International Journal of Project Management*, vol. 33, pp. 772-783, 2015.
- [33] A. Munns and B. F. Bjeirmi, "The role of project management in achieving project success," *International journal of project management*, vol. 14, pp. 81-87, 1996.
- [34] M. Allen, D. Alleyne, C. Farmer, A. McRae, and C. Turner, "A framework for project success," *Journal of Information Technology and Economic Development*, vol. 5, p. 1, 2014.
- [35] M. B. Bender, *A manager's guide to project management: Learn how to apply best practices*: FT Press, 2009.
- [36] W. Fox and G. Van der Walldt, *A guide to project management*: Juta and Company Ltd, 2008.
- [37] O. o. G. Commerce, *Managing successful projects with PRINCE2*: The Stationery Office, 2009.
- [38] Z. Laslo and G. Gurevich, "Enhancing project on time within budget performance by implementing proper control routines," *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies*, vol. 19, pp. 53-69, 2014.
- [39] B. Lientz and K. Rea, *Project management for the 21st century*: Routledge, 2007.
- [40] J. Gido, J. Clements, and J. Clements, *Successful project management*: Nelson Education, 2014.
- [41] J. Phillips, *Project Management for Small Business: A Streamlined Approach from Planning to Completion*: AMACOM Div American Mgmt Assn, 2011.
- [42] J. Rodney Turner, A. Ledwith, and J. Kelly, "Project management in small to medium-sized enterprises: A comparison between firms by size and industry," *International Journal of Managing Projects in Business*, vol. 2, pp. 282-296, 2009.
- [43] S. Spalek, "Does investment in project management pay off?," *Industrial Management & Data Systems*, vol. 114, pp. 832-856, 2014.
- [44] F. Bekker and G. Staude, *Starting and managing a small business*: Juta & Company, 1988.
- [45] I. Booyens, "Are small, medium-and micro-sized enterprises engines of innovation? The reality in South Africa," *Science and Public Policy*, vol. 38, pp. 67-78, 2011.

- [46] F. C. Wadzwanya, "Managing small and medium enterprises using project management principles," Master of Technology: Business Administration (Entrepreneurship), Cape Peninsula University of Technology, 2017.
- [47] D. Stokes, N. Wilson, and N. Wilson, *Small business management and entrepreneurship*: Cengage Learning EMEA, 2010.
- [48] J. Bolton and C. o. I. o. S. Firms, "Small firms: report of the Committee of Inquiry on Small Firms. Cmnd 4811," ed, 1971.
- [49] M. Ward and C. Rhodes, "Small businesses and the UK economy," *Standard Note: SN/EP/6078*. Office for National Statistics, 2014.
- [50] W. G. a. S. Brown, "Small business, innovation, and tax policy: a review," *National Tax Journal*, vol. 66, pp. 871-892, 2017, April 19 2013.
- [51] "National Small Business Amendment Act 29 of 2004," in *Government Gazette* vol. 474, ed, 2004.



APPENDIX

Appendix A: Letter of Participation

School of Engineering Management,
University of Johannesburg,
Auckland Park,
Johannesburg.
25th July, 2020

Dear Sir/Madam,

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN YOUR COMPANY

I am writing to request for permission to conduct research in your company. My name is David Idowu Oyewole, and a Master of Philosophy student at School of Engineering Management, Faculty of Technology and Built Environment, University of Johannesburg. The title of my research is “**Project management in South African startups companies**” and your company has been purposely selected because it can elicit appropriate responses in addressing my research objectives.

I hereby use this medium to seek your consent to be one of the participants for this study through answering of the questionnaire. The anonymity and confidentiality are guaranteed for the participants. However, your voluntary response is of utmost importance and will be highly appreciated. The questionnaire is meant to be completed by founder, partner, project manager or senior management team member.

I wish to assure you that the findings of the study will be used for academic purpose only. This will equally contribute to extension of frontier of knowledge in the startups companies in South Africa.

Upon the completion of the study the questionnaire can be forward back by email, fax or post. The result of a full research survey may be requested. If you so require any further information, please do not hesitate to contact me at dioyewole@gmail.com, 201463450@student.uj.ac or fax 0866619834 and telephonically on 0844590930. Thank you for your time and consideration.

Yours sincerely,



David I. Oyewole

Cell: 0844590930

Appendix B: Questionnaire

PROJECT MANAGEMENT IN SOUTH AFRICAN STARTUPS COMPANIES



This is a master programme research survey from the University of Johannesburg, Faculty of Engineering and The Built Environment. The title of the dissertation is **Project Management in South African Startups Companies**. I would appreciate your participation and contribution in this survey. Your participation is voluntary, but an **incomplete** questionnaire is **not useful**. The information you will provide is anonymous and confidential. This will be put together with other responses to be used at highly aggregated level. Thank you for your anticipated cooperation.

SECTION A: DEMOGRAPHIC DATA

Instruction: Please tick (X) the appropriate column as applicable

S/N	QUESTIONS	RESPONSES
1.	Does your company fall under startups companies?	
	YES	1
	NO	2
2.	Which category of the following does your startups company fall under?	
	Small business	1
	Medium business	2
	Big/corporate business	3
3.	How many employees are working with your startups company?	
	Less than 10	1
	10 – 20	2
	21- 30	3
	31- 40	4
	41- 50	5

	Greater than 50	6
4	Are you sole owner or in partnership with others?	
	Yes (Partnership)	1
	No (Sole Owner)	2
5	How many years of existence is your startups company?	
	Less than 1 year	1
	2 - 3years	2
	4 - 5 years	3
	Greater than 5 years	4
6	Nature of your startups company	
	Services	1
	Manufacturing	2
	Engineering	3
	Information Technology	4
	Others	5
7	How many years of operations of your startups company?	
	Less than 1 year	1
	2 - 3years	2
	4 - 5 years	3
	Greater than 5 years	4
8	Which sector or industry does your startups company falls into?	
	Agriculture	1
	Construction	2
	Education	3
	Finance	4
	Information Technology	5
	Services	6
	Tourism	7
	Others	8
9	What is your Highest Qualification	
	Less than Matric	1
	matric	2
	Certificate	3
	Diploma	4
	Others	5
	Diploma	6
	Degree/Hons	7
	Master	8
	PhD	9

SECTION B: EXISTENCE OF PROJECT MANAGEMENT IN SOUTH AFRICAN STARTUPS COMPANIES

S/N	QUESTIONS	RESPONSES
1	Do you understand what projects means?	
	Yes	1
	No	2
2	Do you agree that project consist of set of activities?	
	Yes	1
	No	2
3	Are you aware of executing any project in your startups company?	
	Yes	1
	No	2
4	Have you heard of projects management?	
	Yes	1
	No	2
5	Do you have any idea of what project management mean?	
	Yes	1
	No	2
6	Do you have basic knowledge of project management principle?	
	Yes	1
	No	2
7	If yes, when was the first time you heard about project management?	
	1	1
	2	2
	3	3
	4	4
	5	5
	5+ years	6
8	Have you ever had any training on project management?	
	Yes	1
	No	2
9	Is your company using any project management tools?	
	Yes	1
	No	2
10	If no, is your company planning to engage the use of any project management tools or techniques later?	
	Yes	1
	No	2
	Not Applicable (NA)	3

SECTION C: LEVEL OF PROJECT MANAGEMENT APPLICATION IN SOUTH AFRICA STARTUPS COMPANIES

S/N	ITEMS	RESPONSES
1	The level of project management application in my company is high?	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
2	My company has executed several projects with project management application tools and principle.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
3	The acceptance level of project management application by management team is high.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
4	The level of proficiency of project management principle and techniques by company staff is excellent.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
5	I have seen other startups companies around using project management tools.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
6	My company trains her new employees on project management tools and principle.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4

SECTION D: CONTRIBUTION OF PROJECT MANAGEMENT APPLICATION TO SOUTH AFRICAN STARTUPS COMPANIES

S/N	ITEMS	RESPONSES
1	The impact of project management application on startups company is high.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
2	The effect of application of project management in timely execution of projects is evident	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
3	The project management application has indirectly contributed to economic growth of South Africa.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
4	The project management has brought about job creation in South Africa.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
5	I have seen other companies benefiting from project management application.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
6	Project management ensures company global competitiveness.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
7	Project management application contributed to effectiveness and efficiency of startups companies.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4

8	Project management application increases profitability of startups companies	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
9	Project management enable my company in global competitiveness	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
10	Project management application helps in delivering quality projects to clients	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4

SECTION E: THE CHALLENGES OF PROJECT MANAGEMENT APPLICATION IN SOUTH AFRICA STARTUPS COMPANIES

S/N	QUESTIONS	RESPONSES
1	Startups companies encounter some challenges with the use of project management tools	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
2	The project management training is highly expensive.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
3	The introduction of project management application to the startups companies means additional cost.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
4	Some clients cannot afford the cost of project management application to projects.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4

5	Project management application requires high level of proficiency.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
6	Some staff find it difficult to adapt to project management application.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
7	Project management application is only popular among big companies.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4
8	Lack of support from government has made project management unpopular in SA startups companies.	
	Strongly Agree	1
	Agree	2
	Strongly Disagree	3
	Disagree	4

Appendix C: Demographic Data

1. Does your company fall under startups companies?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	59	93.7	93.7	93.7
	No	4	6.3	6.3	100.0
	Total	63	100.0	100.0	

2. Which category of the following does your startups company fall under?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Small business	48	76.2	76.2	76.2
	Medium business	14	22.2	22.2	98.4
	Big/corporate Business	1	1.6	1.6	100.0
	Total	63	100.0	100.0	

3. How many employees are working with your startups company?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10	29	46.0	46.0	46.0
	10 – 20	13	20.6	20.6	66.7
	21- 30	8	12.7	12.7	79.4
	31- 40	6	9.5	9.5	88.9
	41- 50	3	4.8	4.8	93.7
	Greater than 50	4	6.3	6.3	100.0
	Total	63	100.0	100.0	

4. Are you sole owner or in partnership with others?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes (Partnership)	50	79.4	79.4	79.4
	No (Sole Owner)	13	20.6	20.6	100.0
	Total	63	100.0	100.0	

5. How many years of existence is your startups company?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2 - 3years	29	46.0	46.0	46.0
	4 - 5 years	19	30.2	30.2	76.2
	Greater than 5 years	14	22.2	22.2	98.4
	Less than 1year	1	1.6	1.6	100.0
	Total	63	100.0	100.0	

6. Nature of your startups company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Services	16	25.4	25.4	25.4
	Manufacturing	8	12.7	12.7	38.1
	Engineering	6	9.5	9.5	47.6
	Information Technology	24	38.1	38.1	85.7
	Others	9	14.3	14.3	100.0
	Total	63	100.0	100.0	

7. How many years of operations of your startups company?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	5	7.9	7.9	7.9
	2 - 3years	29	46.0	46.0	54.0
	4 - 5 years	14	22.2	22.2	76.2
	Greater than 5 years	15	23.8	23.8	100.0
	Total	63	100.0	100.0	

8. Which sector or industry does your startups company falls into?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agriculture	7	11.1	11.1	11.1
	Finance	1	1.6	1.6	12.7
	Information Technology	20	31.7	31.7	44.4
	Services	20	31.7	31.7	76.2
	Others	15	23.8	23.8	100.0
	Total	63	100.0	100.0	

9. What is your Highest Qualification?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Matric	1	1.6	1.6	1.6
	Diploma	3	4.8	4.8	6.5
	Certificate	1	1.6	1.6	8.1
	Degree/Hons	35	55.6	56.5	64.5
	Master	20	31.7	32.3	96.8
	PhD	2	3.2	3.2	100.0
	Total	62	98.4	100.0	
Missing	System	1	1.6		
Total		63	100.0		

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Appendix D: Data Analysis Result on Existence of Project Management in South African Startups Companies

Do you understand what projects means? * Have you heard of projects management? Crosstabulation

			Have you heard of projects management?		Total
			Yes	NO	
Do you understand what projects means?	Yes	Count	61	0	61
		% within Do you understand what projects means?	100.0%	0.0%	100.0%
		% within Have you heard of projects management?	98.4%	0.0%	96.8%
	NO	Count	1	1	2
		% within Do you understand what projects means?	50.0%	50.0%	100.0%
		% within Have you heard of projects management?	1.6%	100.0%	3.2%
Total	Count		62	1	63
	% within Do you understand what projects means?		98.4%	1.6%	100.0%
	% within Have you heard of projects management?		100.0%	100.0%	100.0%

Do you agree that project consist of set of activities? * Have you heard of projects management? Crosstabulation

			Have you heard of projects management?		Total
			Yes	NO	
Do you agree that project consist of set of activities?	Yes	Count	61	0	61
		% within Do you agree that project consist of set of activities?	100.0%	0.0%	100.0%
		% within Have you heard of projects management?	98.4%	0.0%	96.8%
	NO	Count	1	1	2
		% within Do you agree that project consist of set of activities?	50.0%	50.0%	100.0%
		% within Have you heard of projects management?	1.6%	100.0%	3.2%
Total	Count		62	1	63
	% within Do you agree that project consist of set of activities?		98.4%	1.6%	100.0%
	% within Have you heard of projects management?		100.0%	100.0%	100.0%

Are you aware of executing any project in your startups company? * Have you heard of projects management? Crosstabulation

			Have you heard of projects management?		Total
			Yes	NO	
Are you aware of executing any project in your startups company?	Yes	Count	62	0	62
		% within Are you aware of executing any project in your startups company?	100.0%	0.0%	100.0%
		% within Have you heard of projects management?	100.0%	0.0%	98.4%
	NO	Count	0	1	1
		% within Are you aware of executing any project in your startups company?	0.0%	100.0%	100.0%
		% within Have you heard of projects management?	0.0%	100.0%	1.6%
Total	Count		62	1	63
	% within Are you aware of executing any project in your startups company?		98.4%	1.6%	100.0%
	% within Have you heard of projects management?		100.0%	100.0%	100.0%

Do you have any idea of what project management mean? * Have you heard of projects management? Crosstabulation

			Have you heard of projects management?		Total
			Yes	NO	
Do you have any idea of what project management mean?	Yes	Count	60	0	60
		% within Do you have any idea of what project management mean?	100.0%	0.0%	100.0%
		% within Have you heard of projects management?	96.8%	0.0%	95.2%
	NO	Count	2	1	3
		% within Do you have any idea of what project management mean?	66.7%	33.3%	100.0%
		% within Have you heard of projects management?	3.2%	100.0%	4.8%
Total	Count		62	1	63
	% within Do you have any idea of what project management mean?		98.4%	1.6%	100.0%
	% within Have you heard of projects management?		100.0%	100.0%	100.0%

Do you have basic knowledge of project management principle? * Have you heard of projects management? Crosstabulation

			Have you heard of projects management?		Total
			Yes	NO	
Do you have basic knowledge of project management principle?	Yes	Count	60	0	60
		% within Do you have basic knowledge of project management principle?	100.0%	0.0%	100.0%
		% within Have you heard of projects management?	96.8%	0.0%	95.2%
	NO	Count	2	1	3
		% within Do you have basic knowledge of project management principle?	66.7%	33.3%	100.0%
		% within Have you heard of projects management?	3.2%	100.0%	4.8%
Total	Count		62	1	63
	% within Do you have basic knowledge of project management principle?		98.4%	1.6%	100.0%
	% within Have you heard of projects management?		100.0%	100.0%	100.0%

Is your company using any project management tools? * Have you heard of projects management? Crosstabulation

			Have you heard of projects management?		Total
			Yes	NO	
Is your company using any project management tools?	Yes	Count	51	0	51
		% within Is your company using any project management tools?	100.0%	0.0%	100.0%
		% within Have you heard of projects management?	82.3%	0.0%	81.0%
	NO	Count	11	1	12
		% within Is your company using any project management tools?	91.7%	8.3%	100.0%
		% within Have you heard of projects management?	17.7%	100.0%	19.0%
Total	Count		62	1	63
	% within Is your company using any project management tools?		98.4%	1.6%	100.0%
	% within Have you heard of projects management?		100.0%	100.0%	100.0%

Is your company using any project management tools? * Have you ever had any training on project management? Crosstabulation

		Have you ever had any training on project management?				
		Yes	NO	6	Total	
Is your company using any project management tools?	Yes	Count	36	15	0	51
		% within Is your company using any project management tools?	70.6%	29.4%	0.0%	100.0%
		% within Have you ever had any training on project management?	85.7%	75.0%	0.0%	81.0%
	NO	Count	6	5	1	12
		% within Is your company using any project management tools?	50.0%	41.7%	8.3%	100.0%
		% within Have you ever had any training on project management?	14.3%	25.0%	100.0%	19.0%
Total		Count	42	20	1	63
		% within Is your company using any project management tools?	66.7%	31.7%	1.6%	100.0%
		% within Have you ever had any training on project management?	100.0%	100.0%	100.0%	100.0%

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Appendix E: Data Analysis Result on Level of Project Management Application in South African Startups Companies

The level of project management application in my company is high? * Is your company using any project management tools?

Crosstabulation

			Is your company using any project management tools?		Total
			Yes	NO	
The level of project management application in my company is high?	Strongly Agree	Count	16	0	16
		% within The level of project management application in my company is high?	100.0%	0.0%	100.0%
		% within Is your company using any project management tools?	31.4%	0.0%	25.4%
	Agree	Count	34	4	38
		% within The level of project management application in my company is high?	89.5%	10.5%	100.0%
		% within Is your company using any project management tools?	66.7%	33.3%	60.3%
	Strongly Disagree	Count	1	2	3
		% within The level of project management application in my company is high?	33.3%	66.7%	100.0%
		% within Is your company using any project management tools?	2.0%	16.7%	4.8%
	Disagree	Count	0	6	6
		% within The level of project management application in my company is high?	0.0%	100.0%	100.0%
		% within Is your company using any project management tools?	0.0%	50.0%	9.5%
Total	Count		51	12	63
	% within The level of project management application in my company is high?		81.0%	19.0%	100.0%
	% within Is your company using any project management tools?		100.0%	100.0%	100.0%

My company has executed several projects with project management application tools and principle. * Is your company using any project management tools? Crosstabulation

			Is your company using any project management tools?		Total
			Yes	NO	
My company has executed several projects with project management application tools and principle.	Strongly Agree	Count	17	0	17
		% within My company has executed several projects with project management application tools and principle.	100.0%	0.0%	100.0%
		% within Is your company using any project management tools?	33.3%	0.0%	27.0%
	Agree	Count	32	5	37
		% within My company has executed several projects with project management application tools and principle.	86.5%	13.5%	100.0%
		% within Is your company using any project management tools?	62.7%	41.7%	58.7%
	Strongly Disagree	Count	0	2	2
		% within My company has executed several projects with project management application tools and principle.	0.0%	100.0%	100.0%
		% within Is your company using any project management tools?	0.0%	16.7%	3.2%
	Disagree	Count	2	5	7
		% within My company has executed several projects with project management application tools and principle.	28.6%	71.4%	100.0%
		% within Is your company using any project management tools?	3.9%	41.7%	11.1%
Total	Count		51	12	63
	% within My company has executed several projects with project management application tools and principle.		81.0%	19.0%	100.0%
	% within Is your company using any project management tools?		100.0%	100.0%	100.0%

My company has executed several projects with project management application tools and principle. * The level of proficiency of project management principle and techniques by company staff is excellent. Crosstabulation

			The level of proficiency of project management principle and techniques by company staff is excellent.				Total
			Strongly Agree	Agree	Strongly Disagree	Disagree	
My company has executed several projects with project management application tools and principle.	Strongly Agree	Count	9	8	0	0	17
		% within My company has executed several projects with project management application tools and principle.	52.9%	47.1%	0.0%	0.0%	100.0%
	Agree	% within The level of proficiency of project management principle and techniques by company staff is excellent.	100.0%	20.5%	0.0%	0.0%	27.0%
		Count	0	31	0	6	37
	Agree	% within My company has executed several projects with project management application tools and principle.	0.0%	83.8%	0.0%	16.2%	100.0%
		% within The level of proficiency of project management principle and techniques by company staff is excellent.	0.0%	79.5%	0.0%	42.9%	58.7%
	Strongly Disagree	Count	0	0	1	1	2
		% within My company has executed several projects with project management application tools and principle.	0.0%	0.0%	50.0%	50.0%	100.0%
	Disagree	% within The level of proficiency of project management principle and techniques by company staff is excellent.	0.0%	0.0%	100.0%	7.1%	3.2%
		Count	0	0	0	7	7
	Disagree	% within My company has executed several projects with project management application tools and principle.	0.0%	0.0%	0.0%	100.0%	100.0%

	% within The level of proficiency of project management principle and techniques by company staff is excellent.	0.0%	0.0%	0.0%	50.0%	11.1%
Total	Count	9	39	1	14	63
	% within My company has executed several projects with project management application tools and principle.	14.3%	61.9%	1.6%	22.2%	100.0%
	% within The level of proficiency of project management principle and techniques by company staff is excellent.	100.0%	100.0%	100.0%	100.0%	100.0%



Appendix F: Result Analysis on Contribution of Project Management Application to South African Companies

The impact of project management application on startups company is high. * The effect of application of project management in timely execution of projects is evident Crosstabulation

			The effect of application of project management in timely execution of projects is evident				
			Strongly Agree	Agree	Strongly Disagree	Disagree	Total
The impact of project management application on startups company is high.	Strongly Agree	Count	11	4	0	0	15
		% within The impact of project management application on startups company is high.	73.3%	26.7%	0.0%	0.0%	100.0%
		% within The effect of application of project management in timely execution of projects is evident	42.3%	12.9%	0.0%	0.0%	23.8%
	Agree	Count	15	24	0	0	39
		% within The impact of project management application on startups company is high.	38.5%	61.5%	0.0%	0.0%	100.0%
		% within The effect of application of project management in timely execution of projects is evident	57.7%	77.4%	0.0%	0.0%	61.9%
	Strongly Disagree	Count	0	0	2	0	2
		% within The impact of project management application on startups company is high.	0.0%	0.0%	100.0%	0.0%	100.0%
		% within The effect of application of project management in timely execution of projects is evident	0.0%	0.0%	100.0%	0.0%	3.2%
	Disagree	Count	0	3	0	4	7
		% within The impact of project management application on startups company is high.	0.0%	42.9%	0.0%	57.1%	100.0%
		% within The effect of application of project management in timely execution of projects is evident	0.0%	9.7%	0.0%	100.0%	11.1%
Total		Count	26	31	2	4	63
		% within The impact of project management application on startups company is high.	41.3%	49.2%	3.2%	6.3%	100.0%
		% within The effect of application of project management in timely execution of projects is evident	100.0%	100.0%	100.0%	100.0%	100.0%

The project management application has indirectly contributed to economic growth of South Africa. * The project management has brought about job creation in South Africa. Crosstabulation

			The project management has brought about job creation in South Africa.				Total
			Strongly Agree	Agree	Strongly Disagree	Disagree	
The project management application has indirectly contributed to economic growth of South Africa.	Strongly Agree	Count	12	1	0	0	13
		% within The project management application has indirectly contributed to economic growth of South Africa.	92.3%	7.7%	0.0%	0.0%	100.0%
		% within The project management has brought about job creation in South Africa.	75.0%	2.9%	0.0%	0.0%	20.6%
	Agree	Count	2	23	0	4	29
		% within The project management application has indirectly contributed to economic growth of South Africa.	6.9%	79.3%	0.0%	13.8%	100.0%
		% within The project management has brought about job creation in South Africa.	12.5%	65.7%	0.0%	44.4%	46.0%
	Strongly Disagree	Count	1	9	2	0	12
		% within The project management application has indirectly contributed to economic growth of South Africa.	8.3%	75.0%	16.7%	0.0%	100.0%
		% within The project management has brought about job creation in South Africa.	6.3%	25.7%	66.7%	0.0%	19.0%
	Disagree	Count	1	2	1	5	9
		% within The project management application has indirectly contributed to economic growth of South Africa.	11.1%	22.2%	11.1%	55.6%	100.0%
		% within The project management has brought about job creation in South Africa.	6.3%	5.7%	33.3%	55.6%	14.3%
Total	Count		16	35	3	9	63
	% within The project management application has indirectly contributed to economic growth of South Africa.		25.4%	55.6%	4.8%	14.3%	100.0%
	% within The project management has brought about job creation in South Africa.		100.0%	100.0%	100.0%	100.0%	100.0%

Project management ensures company global competitiveness. * Project management enable my company in global competitiveness

Crosstabulation

			Project management enable my company in global competitiveness				Total
			Strongly Agree	Agree	Strongly Disagree	Disagree	
Project management ensures company global competitiveness.	Strongly Agree	Count	25	6	0	0	31
		% within Project management ensures company global competitiveness.	80.6%	19.4%	0.0%	0.0%	100.0%
		% within Project management enable my company in global competitiveness	100.0%	20.0%	0.0%	0.0%	49.2%
	Agree	Count	0	24	0	0	24
		% within Project management ensures company global competitiveness.	0.0%	100.0%	0.0%	0.0%	100.0%
		% within Project management enable my company in global competitiveness	0.0%	80.0%	0.0%	0.0%	38.1%
	Strongly Disagree	Count	0	0	1	2	3
		% within Project management ensures company global competitiveness.	0.0%	0.0%	33.3%	66.7%	100.0%
		% within Project management enable my company in global competitiveness	0.0%	0.0%	100.0%	28.6%	4.8%
	Disagree	Count	0	0	0	5	5
		% within Project management ensures company global competitiveness.	0.0%	0.0%	0.0%	100.0%	100.0%
		% within Project management enable my company in global competitiveness	0.0%	0.0%	0.0%	71.4%	7.9%
	Total	Count	25	30	1	7	63
		% within Project management ensures company global competitiveness.	39.7%	47.6%	1.6%	11.1%	100.0%
		% within Project management enable my company in global competitiveness	100.0%	100.0%	100.0%	100.0%	100.0%

Project management application increases profitability of startups companies * Project management application contributed to effectiveness and efficiency of startups companies. Crosstabulation

			Project management application contributed to effectiveness and efficiency of startups companies.				Total
			Strongly Agree	Agree	Strongly Disagree	Disagree	
Project management application increases profitability of startups companies	Strongly Agree	Count	14	3	0	0	17
		% within Project management application increases profitability of startups companies	82.4%	17.6%	0.0%	0.0%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	53.8%	9.4%	0.0%	0.0%	27.0%
	Agree	Count	12	23	0	0	35
		% within Project management application increases profitability of startups companies	34.3%	65.7%	0.0%	0.0%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	46.2%	71.9%	0.0%	0.0%	55.6%
	Strongly Disagree	Count	0	0	1	1	2
		% within Project management application increases profitability of startups companies	0.0%	0.0%	50.0%	50.0%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	0.0%	0.0%	100.0%	25.0%	3.2%
	Disagree	Count	0	6	0	3	9
		% within Project management application increases profitability of startups companies	0.0%	66.7%	0.0%	33.3%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	0.0%	18.8%	0.0%	75.0%	14.3%
Total		Count	26	32	1	4	63
		% within Project management application increases profitability of startups companies	41.3%	50.8%	1.6%	6.3%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	100.0%	100.0%	100.0%	100.0%	100.0%

Project management application helps in delivering quality projects to clients * Project management application contributed to effectiveness and efficiency of startups companies. Crosstabulation

			Project management application contributed to effectiveness and efficiency of startups companies.				
			Strongly Agree	Agree	Strongly Disagree	Disagree	Total
Project management application helps in delivering quality projects to clients	Strongly Agree	Count	14	7	0	0	21
		% within Project management application helps in delivering quality projects to clients	66.7%	33.3%	0.0%	0.0%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	53.8%	21.9%	0.0%	0.0%	33.3%
	Agree	Count	12	24	0	0	36
		% within Project management application helps in delivering quality projects to clients	33.3%	66.7%	0.0%	0.0%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	46.2%	75.0%	0.0%	0.0%	57.1%
	Strongly Disagree	Count	0	0	0	2	2
		% within Project management application helps in delivering quality projects to clients	0.0%	0.0%	0.0%	100.0%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	0.0%	0.0%	0.0%	50.0%	3.2%
	Disagree	Count	0	1	1	2	4
		% within Project management application helps in delivering quality projects to clients	0.0%	25.0%	25.0%	50.0%	100.0%
		% within Project management application contributed to effectiveness and efficiency of startups companies.	0.0%	3.1%	100.0%	50.0%	6.3%
Total	Count		26	32	1	4	63
	% within Project management application helps in delivering quality projects to clients		41.3%	50.8%	1.6%	6.3%	100.0%
	% within Project management application contributed to effectiveness and efficiency of startups companies.		100.0%	100.0%	100.0%	100.0%	100.0%

Appendix G: Result Analysis on Challenges of Project Management Application in South African Startups Companies

Startups companies encounter some challenges with the use of project management tools * The project management training is highly expensive. Crosstabulation

			The project management training is highly expensive.				Total
			Strongly Agree	Agree	Strongly Disagree	Disagree	
Startups companies encounter some challenges with the use of project management tools	Strongly Agree	Count	3	8	0	1	12
		% within Startups companies encounter some challenges with the use of project management tools	25.0%	66.7%	0.0%	8.3%	100.0%
		% within The project management training is highly expensive.	50.0%	25.8%	0.0%	6.3%	19.0%
	Agree	Count	2	11	9	7	29
		% within Startups companies encounter some challenges with the use of project management tools	6.9%	37.9%	31.0%	24.1%	100.0%
		% within The project management training is highly expensive.	33.3%	35.5%	90.0%	43.8%	46.0%
	Strongly Disagree	Count	0	0	1	1	2
		% within Startups companies encounter some challenges with the use of project management tools	0.0%	0.0%	50.0%	50.0%	100.0%
		% within The project management training is highly expensive.	0.0%	0.0%	10.0%	6.3%	3.2%
	Disagree	Count	1	12	0	7	20
		% within Startups companies encounter some challenges with the use of project management tools	5.0%	60.0%	0.0%	35.0%	100.0%
		% within The project management training is highly expensive.	16.7%	38.7%	0.0%	43.8%	31.7%
Total	Count		6	31	10	16	63
	% within Startups companies encounter some challenges with the use of project management tools		9.5%	49.2%	15.9%	25.4%	100.0%
	% within The project management training is highly expensive.		100.0%	100.0%	100.0%	100.0%	100.0%

The introduction of project management application to the startups companies means additional cost. * Some clients cannot afford the cost of project management application to projects. Crosstabulation

			Some clients cannot afford the cost of project management application to projects.				
			Strongly Agree	Agree	Strongly Disagree	Disagree	Total
The introduction of project management application to the startups companies means additional cost.	Strongly Agree	Count	8	10	0	0	18
		% within The introduction of project management application to the startups companies means additional cost.	44.4%	55.6%	0.0%	0.0%	100.0%
		% within Some clients cannot afford the cost of project management application to projects.	42.1%	32.3%	0.0%	0.0%	28.6%
	Agree	Count	10	20	0	4	34
		% within The introduction of project management application to the startups companies means additional cost.	29.4%	58.8%	0.0%	11.8%	100.0%
		% within Some clients cannot afford the cost of project management application to projects.	52.6%	64.5%	0.0%	44.4%	54.0%
	Strongly Disagree	Count	0	1	4	0	5
		% within The introduction of project management application to the startups companies means additional cost.	0.0%	20.0%	80.0%	0.0%	100.0%
		% within Some clients cannot afford the cost of project management application to projects.	0.0%	3.2%	100.0%	0.0%	7.9%
	Disagree	Count	1	0	0	5	6
		% within The introduction of project management application to the startups companies means additional cost.	16.7%	0.0%	0.0%	83.3%	100.0%
		% within Some clients cannot afford the cost of project management application to projects.	5.3%	0.0%	0.0%	55.6%	9.5%
	Total	Count	19	31	4	9	63
		% within The introduction of project management application to the startups companies means additional cost.	30.2%	49.2%	6.3%	14.3%	100.0%
		% within Some clients cannot afford the cost of project management application to projects.	100.0%	100.0 %	100.0%	100.0%	100.0%

Project management application requires high level of proficiency. * Some staff find it difficult to adapt to project management application. Crosstabulation

			Some staff find it difficult to adapt to project management application.					Total
			Strongly Agree	Agree	Strongly Disagree	Disagree	5	
Project management application requires high level of proficiency.	Strongly Agree	Count	2	0	0	0	0	2
		% within Project management application requires high level of proficiency.	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
		% within Some staff find it difficult to adapt to project management application.	33.3%	0.0%	0.0%	0.0%	0.0%	3.2%
	Agree	Count	3	15	16	4	1	39
		% within Project management application requires high level of proficiency.	7.7%	38.5%	41.0%	10.3%	2.6%	100.0%
		% within Some staff find it difficult to adapt to project management application.	50.0%	68.2%	72.7%	33.3%	100.0%	61.9%
	Strongly Disagree	Count	0	3	2	1	0	6
		% within Project management application requires high level of proficiency.	0.0%	50.0%	33.3%	16.7%	0.0%	100.0%
		% within Some staff find it difficult to adapt to project management application.	0.0%	13.6%	9.1%	8.3%	0.0%	9.5%
	Disagree	Count	1	4	4	7	0	16
		% within Project management application requires high level of proficiency.	6.3%	25.0%	25.0%	43.8%	0.0%	100.0%
		% within Some staff find it difficult to adapt to project management application.	16.7%	18.2%	18.2%	58.3%	0.0%	25.4%
Total	Count		6	22	22	12	1	63
	% within Project management application requires high level of proficiency.		9.5%	34.9%	34.9%	19.0%	1.6%	100.0%
	% within Some staff find it difficult to adapt to project management application.		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Project management application is only popular among big companies. * Lack of support from government has made project management unpopular in SA startups companies. Crosstabulation

			Lack of support from government has made project management unpopular in SA startups companies.				Total
			Strongly Agree	Agree	Strongly Disagree	Disagree	
Project management application is only popular among big companies.	Strongly Agree	Count	2	0	0	0	2
		% within Project management application is only popular among big companies.	100.0%	0.0%	0.0%	0.0%	100.0%
	Agree	% within Lack of support from government has made project management unpopular in SA startups companies.	40.0%	0.0%	0.0%	0.0%	3.2%
		Count	3	3	0	8	14
		% within Project management application is only popular among big companies.	21.4%	21.4%	0.0%	57.1%	100.0%
		% within Lack of support from government has made project management unpopular in SA startups companies.	60.0%	33.3%	0.0%	30.8%	22.2%
	Strongly Disagree	Count	0	1	21	7	29
		% within Project management application is only popular among big companies.	0.0%	3.4%	72.4%	24.1%	100.0%
		% within Lack of support from government has made project management unpopular in SA startups companies.	0.0%	11.1%	91.3%	26.9%	46.0%
	Disagree	Count	0	5	2	11	18
		% within Project management application is only popular among big companies.	0.0%	27.8%	11.1%	61.1%	100.0%
		% within Lack of support from government has made project management unpopular in SA startups companies.	0.0%	55.6%	8.7%	42.3%	28.6%
Total	Count		5	9	23	26	63
	% within Project management application is only popular among big companies.		7.9%	14.3%	36.5%	41.3%	100.0%
	% within Lack of support from government has made project management unpopular in SA startups companies.		100.0%	100.0%	100.0%	100.0%	100.0%